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(54) Title: NOVEL HUMAN GENES AND GENE EXPRESSION PRODUCTS			
(57) Abstract			
<p>This invention relates to novel human genes, to proteins expressed by the genes, and to variants of the proteins. The invention also relates to diagnostic assays and therapeutic agents related to the genes and proteins, including probes, antisense constructs, and antibodies. The subject nucleic acids have been found to be differentially regulated in tumor cells, particularly colon cancer cell lines and/or tissue.</p>			
<div style="text-align: right;">Differential Expression Analysis</div> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;"> <p>Cancer Probe</p>  <p>Normal Probe</p>  </div> <div style="width: 35%; text-align: center;"> <p>SW480 Clone Number</p> <p>1 2 3 4</p> </div> </div>			

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5 **NOVEL HUMAN GENES AND GENE EXPRESSION PRODUCTS**

 This application is based on Provisional Application No. 60/088,801, filed June 10, 1998, which is hereby incorporated herein by reference.

10 **Field of the Invention**

 The present invention provides nucleic acid sequences and proteins encoded thereby, as well as probes derived from the nucleic acid sequences, antibodies directed to the encoded proteins, and diagnostic methods for detecting cancerous cells, especially colon cancer cells.

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Background of the Invention

 Colorectal carcinoma is a malignant neoplastic disease. There is a high incidence of colorectal carcinoma in the Western world, particularly in the United States. Tumors of this type often metastasize through lymphatic and vascular
20 channels. Many patients with colorectal carcinoma eventually die from this disease. In fact, it is estimated that 62,000 persons in the United States alone die of colorectal carcinoma annually.

 However, if diagnosed early, colon cancer may be treated effectively by surgical removal of the cancerous tissue. Colorectal cancers originate in the colorectal
25 epithelium and typically are not extensively vascularized (and therefore not invasive) during the early stages of development. Colorectal cancer is thought to result from the clonal expansion of a single mutant cell in the epithelial lining of the colon or rectum. The transition to a highly vascularized, invasive and ultimately metastatic cancer which spreads throughout the body commonly takes ten years or longer. If the cancer
30 is detected prior to invasion, surgical removal of the cancerous tissue is an effective cure. However, colorectal cancer is often detected only upon manifestation of clinical symptoms, such as pain and black tarry stool. Generally, such symptoms are present

only when the disease is well established, often after metastasis has occurred, and the prognosis for the patient is poor, even after surgical resection of the cancerous tissue. Early detection of colorectal cancer therefore is important in that detection may significantly reduce its morbidity.

- 5 Invasive diagnostic methods such as endoscopic examination allow for direct visual identification, removal, and biopsy of potentially cancerous growths such as polyps. Endoscopy is expensive, uncomfortable, inherently risky, and therefore not a practical tool for screening populations to identify those with colorectal cancer. Non-invasive analysis of stool samples for characteristics indicative of the presence of
- 10 colorectal cancer or precancer is a preferred alternative for early diagnosis, but no known diagnostic method is available which reliably achieves this goal. A reliable, non-invasive, and accurate technique for diagnosing colon cancer at an early stage would help save many lives.

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Summary of the Invention

The present invention provides nucleic acid sequences and proteins encoded thereby, as well as probes derived from the nucleic acid sequences, antibodies directed to the encoded proteins, and diagnostic methods for detecting cancerous cells, especially colon cancer cells.

- 20 In one aspect, the invention provides an isolated nucleic acid comprising a nucleotide sequence which hybridizes under stringent conditions to a sequence of SEQ ID Nos. 1-127 or a sequence complementary thereto. In a related embodiment, the nucleic acid is at least about 80% or about 100% identical to a sequence corresponding to at least about 12, at least about 15, at least about 25, or at least about
- 25 40 consecutive nucleotides up to the full length of one of SEQ ID Nos. 1-127 or a sequence complementary thereto or up to the full length of the gene of which said sequence is a fragment. In certain embodiments, a nucleic acid of the present invention includes at least about five, at least about ten, or at least about twenty nucleic acids from a region designated as novel in Table 2. In certain other
- 30 embodiments, a nucleic acid of the present invention includes at least about five, at least about ten, or at least about twenty nucleotides which are not included in corresponding clones whose accession numbers are listed in Table 2.

In one embodiment, the invention provides a nucleic acid comprising a nucleotide sequence which hybridizes under stringent conditions to a sequence of SEQ ID Nos. 1-127 or a sequence complementary thereto, and a transcriptional regulatory sequence operably linked to the nucleotide sequence to render the
5 nucleotide sequence suitable for use as an expression vector. In another embodiment, the nucleic acid may be included in an expression vector capable of replicating in a prokaryotic or eukaryotic cell. In a related embodiment, the invention provides a host cell transfected with the expression vector.

In another embodiment, the invention provides a transgenic animal having a
10 transgene of a nucleic acid comprising a nucleotide sequence which hybridizes under stringent conditions to a sequence of SEQ ID Nos. 1-127 or a sequence complementary thereto incorporated in cells thereof. The transgene modifies the level of expression of the nucleic acid, the stability of an mRNA transcript of the nucleic acid, or the activity of the encoded product of the nucleic acid.

15 In yet another embodiment, the invention provides substantially pure nucleic acid which hybridizes under stringent conditions to a nucleic acid probe corresponding to at least about 12, at least about 15, at least about 25, or at least about 40 consecutive nucleotides up to the full length of one of SEQ ID Nos. 1-127 or a sequence complementary thereto or up to the full length of the gene of which said
20 sequence is a fragment. The invention also provides an antisense oligonucleotide analog which hybridizes under stringent conditions to at least 12, at least 25, or at least 50 consecutive nucleotides of one of SEQ ID Nos. 1-850 up to the full length of one of SEQ ID Nos. 1-850 or a sequence complementary thereto or up to the full length of the gene of which said sequence is a fragment, and which is resistant to
25 cleavage by a nuclease, preferably an endogenous endonuclease or exonuclease.

In another embodiment, the invention provides a probe/primer comprising a substantially purified oligonucleotide, said oligonucleotide containing a region of nucleotide sequence which hybridizes under stringent conditions to at least about 12, at least about 15, at least about 25, or at least about 40 consecutive nucleotides of
30 sense or antisense sequence selected from SEQ ID Nos. 1-127 up to the full length of one of SEQ ID Nos. 1-127 or a sequence complementary thereto or up to the full length of the gene of which said sequence is a fragment. In preferred embodiments,

the probe selectively hybridizes with a target nucleic acid. In another embodiment, the probe may include a label group attached thereto and able to be detected. The label group may be selected from radioisotopes, fluorescent compounds, enzymes, and enzyme co-factors. The invention further provides arrays of at least about 10, at least
5 about 25, at least about 50, or at least about 100 different probes as described above attached to a solid support.

In yet another embodiment, the invention pertains to a method of determining the phenotype of a cell, comprising detecting the differential expression, relative to a normal cell, of at least one nucleic acid which hybridizes under stringent conditions to
10 one of SEQ ID Nos. 1-850, wherein the nucleic acid is differentially expressed by at least a factor of two, at least a factor of five, at least a factor of twenty, or at least a factor of fifty.

In another aspect, the invention provides polypeptides encoded by the subject nucleic acids. In one embodiment, the invention pertains to a polypeptide including an
15 amino acid sequence encoded by a nucleic acid comprising a nucleotide sequence which hybridizes under stringent conditions to a sequence of SEQ ID Nos. 1-127 or a sequence complementary thereto, or a fragment comprising at least about 25, or at least about 40 amino acids thereof. Further provided are antibodies immunoreactive with these polypeptides.

In still another aspect, the invention provides diagnostic methods. In one
20 embodiment, the invention pertains to a method for determining the phenotype of cells from a patient by providing a nucleic acid probe comprising a nucleotide sequence having at least 12, at least about 15, at least about 25, or at least about 40 consecutive nucleotides represented in a sequence of SEQ ID Nos. 1-850 up to the full
25 length of one of SEQ ID Nos. 1-850 or a sequence complementary thereto or up to the full length of the gene of which said sequence is a fragment, obtaining a sample of cells from a patient, providing a second sample of cells substantially all of which are non-cancerous, contacting the nucleic acid probe under stringent conditions with mRNA of each of said first and second cell samples, and comparing (a) the amount of
30 hybridization of the probe with mRNA of the first cell sample, with (b) the amount of hybridization of the probe with mRNA of the second cell sample, wherein a difference of at least a factor of two, at least a factor of five, at least a factor of twenty, or at least

a factor of fifty in the amount of hybridization with the mRNA of the first cell sample as compared to the amount of hybridization with the mRNA of the second cell sample is indicative of the phenotype of cells in the first cell sample. Determining the phenotype includes determining the genotype, as the term is used herein.

5 In another embodiment, the invention provides a test kit for identifying an transformed cells, comprising a probe/primer as described above, for measuring a level of a nucleic acid which hybridizes under stringent conditions to a nucleic acid of SEQ ID Nos. 1-850 in a sample of cells isolated from a patient. In certain
10 embodiments, the kit may further include instructions for using the kit, solutions for suspending or fixing the cells, detectable tags or labels, solutions for rendering a nucleic acid susceptible to hybridization, solutions for lysing cells, or solutions for the purification of nucleic acids.

 In another embodiment, the invention provides a method of determining the phenotype of a cell, comprising detecting the differential expression, relative to a
15 normal cell, of at least one protein encoded by a nucleic acid which hybridizes under stringent conditions to one of SEQ ID Nos. 1-850, wherein the protein is differentially expressed by at least a factor of two, at least a factor of five, at least a factor of twenty, or at least a factor of fifty. In one embodiment, the level of the protein is detected in an immunoassay. The invention also pertains to a method for determining the
20 presence or absence of a nucleic acid which hybridizes under stringent conditions to one of SEQ ID Nos. 1-127 in a cell, comprising contacting the cell with a probe as described above. The invention further provides a method for determining the presence or absence of a subject polypeptide encoded by a nucleic acid which hybridizes under stringent conditions to one of SEQ ID Nos. 1-127 in a cell,
25 comprising contacting the cell with an antibody as described above. In yet another embodiment, the invention provides a method for determining the presence of an aberrant mutation (e.g., deletion, insertion, or substitution of nucleic acids) or aberrant methylation in a gene which hybridizes under stringent conditions to a sequence of SEQ ID Nos. 1-383 or a sequence complementary thereto, comprising collecting a
30 sample of cells from a patient, isolating nucleic acid from the cells of the sample, contacting the nucleic acid sample with one or more primers which specifically hybridize to a nucleic acid sequence of SEQ ID Nos. 1-850 under conditions such that

hybridization and amplification of the nucleic acid occurs, and comparing the presence, absence, or size of an amplification product to the amplification product of a normal cell.

In one embodiment, the invention provides a test kit for identifying
5 transformed cells, comprising an antibody specific for a protein encoded by a nucleic acid which hybridizes under stringent conditions to any one of SEQ Nos. 1-850. In certain embodiments, the kit further includes instructions for using the kit. In certain embodiments, the kit may further include instructions for using the kit, solutions for suspending or fixing the cells, detectable tags or labels, solutions for rendering a
10 polypeptide susceptible to the binding of an antibody, solutions for lysing cells, or solutions for the purification of polypeptides.

In yet another aspect, the invention provides pharmaceutical compositions including the subject nucleic acids. In one embodiment, an agent which alters the level of expression in a cell of a nucleic acid which hybridizes under stringent
15 conditions to one of SEQ ID Nos. 1-850 or a sequence complementary thereto is identified by providing a cell, treating the cell with a test agent, determining the level of expression in the cell of a nucleic acid which hybridizes under stringent conditions to one of SEQ ID Nos. 1-850 or a sequence complementary thereto, and comparing the level of expression of the nucleic acid in the treated cell with the level of
20 expression of the nucleic acid in an untreated cell, wherein a change in the level of expression of the nucleic acid in the treated cell relative to the level of expression of the nucleic acid in the untreated cell is indicative of an agent which alters the level of expression of the nucleic acid in a cell. The invention further provides a pharmaceutical composition comprising an agent identified by this method. In another
25 embodiment, the invention provides a pharmaceutical composition which includes a polypeptide encoded by a nucleic acid having a nucleotide sequence that hybridizes under stringent conditions to one of SEQ ID Nos. 1-850 or a sequence complementary thereto. In one embodiment, the invention pertains to a pharmaceutical composition comprising a nucleic acid including a sequence which hybridizes under stringent
30 conditions to one of SEQ ID Nos. 1-850 or a sequence complementary thereto.

Brief Description of the Figure

The figure depicts an exemplary assay result for determining differential expression of gene products in cells.

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Detailed Description of the Invention

The invention relates to nucleic acids having the disclosed nucleotide sequences (SEQ ID Nos. 1-850), as well as full length cDNA, mRNA, and genes corresponding to these sequences, and to polypeptides and proteins encoded by these nucleic acids and genes and portions thereof.

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Also included are nucleic acids that encode polypeptides and proteins encoded by the nucleic acids of SEQ ID Nos. 1-850. The various nucleic acids that can encode these polypeptides and proteins differ because of the degeneracy of the genetic code, in that most amino acids are encoded by more than one triplet codon. The identity of such codons is well known in this art, and this information can be used for the

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construction of the nucleic acids within the scope of the invention.

Nucleic acids encoding polypeptides and proteins that are variants of the polypeptides and proteins encoded by the nucleic acids and related cDNA and genes are also within the scope of the invention. The variants differ from wild-type protein in having one or more amino acid substitutions that either enhance, add, or diminish a biological activity of the wild-type protein. Once the amino acid change is selected, a nucleic acid encoding that variant is constructed according to the invention.

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The following detailed description discloses how to obtain or make full-length cDNA and human genes corresponding to the nucleic acids, how to express these nucleic acids and genes, how to identify structural motifs of the genes, how to identify the function of a protein encoded by a gene corresponding to a nucleic acid, how to use nucleic acids as probes in mapping and in tissue profiling, how to use the corresponding polypeptides and proteins to raise antibodies, and how to use the nucleic acids, polypeptides, and proteins for therapeutic and diagnostic purposes.

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The sequences investigated herein have been found to be differentially expressed in samples obtained from colon cancer cell lines and/or colon cancer tissue. However, it is also believed that these sequences may also have utility with other types of cancer.

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Accordingly, certain aspects of the present invention relate to nucleic acids differentially expressed in tumor tissue, especially colon cancer cell lines, polypeptides encoded by such nucleic acids, and antibodies immunoreactive with these polypeptides, and preparations of such compositions. Moreover, the present invention provides diagnostic and therapeutic assays and reagents for detecting and treating disorders involving, for example, aberrant expression of the subject nucleic acids.

I. General

This invention relates in part to novel methods for identifying and/or classifying cancerous cells present in a human tumors, particularly in solid tumors, e.g., carcinomas and sarcomas, such as, for example, breast or colon cancers. The method uses genes that are differentially expressed in cancer cell lines and/or cancer tissue compared with related normal cells, such as normal colon cells, and thereby identifies or classifies tumor cells by the upregulation and/or downregulation of expression of particular genes, an event which is implicated in tumorigenesis.

Upregulation or increased expression of certain genes such as oncogenes, act to promote malignant growth. Downregulation or decreased expression of genes such as tumor suppressor genes promotes malignant growth. Thus, alteration in the expression of either type of gene is a potential diagnostic indicator for determining whether a subject is at risk of developing or has cancer, e.g., colon cancer.

Accordingly, in one aspect, the invention also provides biomarkers, such as nucleic acid markers, for human tumor cells, e.g., for colon cancer cells. The invention also provides proteins encoded by these nucleic acid markers.

The invention also features methods for identifying drugs useful for treatment of such cancer cells, and for treatment of a cancerous condition, such as colon cancer. Unlike prior methods, the invention provides a means for identifying cancer cells at an early stage of development, so that premalignant cells can be identified prior to their spreading throughout the human body. This allows early detection of potentially cancerous conditions, and treatment of those cancerous conditions prior to spread of the cancerous cells throughout the body, or prior to development of an irreversible cancerous condition.

II. Definitions

For convenience, the meaning of certain terms and phrases used in the specification, examples, and appended claims, are provided below.

5 The term "an aberrant expression", as applied to a nucleic acid of the present invention, refers to level of expression of that nucleic acid which differs from the level of expression of that nucleic acid in healthy tissue, or which differs from the activity of the polypeptide present in a healthy subject. An activity of a polypeptide can be aberrant because it is stronger than the activity of its native counterpart. Alternatively,
10 an activity can be aberrant because it is weaker or absent relative to the activity of its native counterpart. An aberrant activity can also be a change in the activity; for example, an aberrant polypeptide can interact with a different target peptide. A cell can have an aberrant expression level of a gene due to overexpression or underexpression of that gene.

15 The term "agonist", as used herein, is meant to refer to an agent that mimics or upregulates (e.g., potentiates or supplements) the bioactivity of a protein. An agonist can be a wild-type protein or derivative thereof having at least one bioactivity of the wild-type protein. An agonist can also be a compound that upregulates expression of a gene or which increases at least one bioactivity of a protein. An agonist can also be
20 a compound which increases the interaction of a polypeptide with another molecule, e.g., a target peptide or nucleic acid.

 The term "allele", which is used interchangeably herein with "allelic variant", refers to alternative forms of a gene or portions thereof. Alleles occupy the same locus or position on homologous chromosomes. When a subject has two identical
25 alleles of a gene, the subject is said to be homozygous for that gene or allele. When a subject has two different alleles of a gene, the subject is said to be heterozygous for the gene. Alleles of a specific gene can differ from each other in a single nucleotide, or several nucleotides, and can include substitutions, deletions, and/or insertions of nucleotides. An allele of a gene can also be a form of a gene containing mutations.

30 The term "allelic variant of a polymorphic region of a gene" refers to a region of a gene having one of several nucleotide sequences found in that region of the gene in other individuals.

“Antagonist” as used herein is meant to refer to an agent that downregulates (e.g., suppresses or inhibits) at least one bioactivity of a protein. An antagonist can be a compound which inhibits or decreases the interaction between a protein and another molecule, e.g., a target peptide or enzyme substrate. An antagonist can also be a
5 compound that downregulates expression of a gene or which reduces the amount of expressed protein present.

The term “antibody” as used herein is intended to include whole antibodies, e.g., of any isotype (IgG, IgA, IgM, IgE, etc), and includes fragments thereof which are also specifically reactive with a vertebrate, e.g., mammalian, protein. Antibodies
10 can be fragmented using conventional techniques and the fragments screened for utility in the same manner as described above for whole antibodies. Thus, the term includes segments of proteolytically-cleaved or recombinantly-prepared portions of an antibody molecule that are capable of selectively reacting with a certain protein. Nonlimiting examples of such proteolytic and/or recombinant fragments include Fab,
15 F(ab')₂, Fab', Fv, and single chain antibodies (scFv) containing a V[L] and/or V[H] domain joined by a peptide linker. The scFv's may be covalently or non-covalently linked to form antibodies having two or more binding sites. The subject invention includes polyclonal, monoclonal, or other purified preparations of antibodies and recombinant antibodies.

20 The phenomenon of “apoptosis” is well known, and can be described as a programmed death of cells. As is known, apoptosis is contrasted with “necrosis”, a phenomenon when cells die as a result of being killed by a toxic material, or other external effect. Apoptosis involves chromatic condensation, membrane blebbing, and fragmentation of DNA, all of which are generally visible upon microscopic
25 examination.

A disease, disorder, or condition “associated with” or “characterized by” an aberrant expression of a nucleic acid refers to a disease, disorder, or condition in a subject which is caused by, contributed to by, or causative of an aberrant level of expression of a nucleic acid.

30 As used herein the term “bioactive fragment of a polypeptide” refers to a fragment of a full-length polypeptide, wherein the fragment specifically agonizes (mimics) or antagonizes (inhibits) the activity of a wild-type polypeptide. The

bioactive fragment preferably is a fragment capable of interacting with at least one other molecule, e.g., protein, small molecule, or DNA, which a full length protein can bind.

"Biological activity" or "bioactivity" or "activity" or "biological function", which are used interchangeably, herein mean an effector or antigenic function that is directly or indirectly performed by a polypeptide (whether in its native or denatured conformation), or by any subsequence thereof. Biological activities include binding to polypeptides, binding to other proteins or molecules, activity as a DNA binding protein, as a transcription regulator, ability to bind damaged DNA, etc. A bioactivity can be modulated by directly affecting the subject polypeptide. Alternatively, a bioactivity can be altered by modulating the level of the polypeptide, such as by modulating expression of the corresponding gene.

The term "biomarker" refers a biological molecule, e.g., a nucleic acid, peptide, hormone, etc., whose presence or concentration can be detected and correlated with a known condition, such as a disease state.

"Cells," "host cells", or "recombinant host cells" are terms used interchangeably herein. It is understood that such terms refer not only to the particular subject cell but to the progeny or potential progeny of such a cell. Because certain modifications may occur in succeeding generations due to either mutation or environmental influences, such progeny may not, in fact, be identical to the parent cell, but are still included within the scope of the term as used herein.

A "chimeric polypeptide" or "fusion polypeptide" is a fusion of a first amino acid sequence encoding one of the subject polypeptides with a second amino acid sequence defining a domain (e.g., polypeptide portion) foreign to and not substantially homologous with any domain of the subject polypeptide. A chimeric polypeptide may present a foreign domain which is found (albeit in a different polypeptide) in an organism which also expresses the first polypeptide, or it may be an "interspecies," "intergenic," etc., fusion of polypeptide structures expressed by different kinds of organisms. In general, a fusion polypeptide can be represented by the general formula $(X)_n-(Y)_m-(Z)_n$, wherein Y represents a portion of the subject polypeptide, and X and Z are each independently absent or represent amino acid sequences which are not related to the native sequence found in an organism, or which are not found as a polypeptide

chain contiguous with the subject sequence, where *m* is an integer greater than or equal to one, and each occurrence of *n* is, independently, 0 or an integer greater than or equal to 1 (*n* and *m* are preferably no greater than 5 or 10).

A "delivery complex" shall mean a targeting means (e.g., a molecule that results in higher affinity binding of a nucleic acid, protein, polypeptide or peptide to a target cell surface and/or increased cellular or nuclear uptake by a target cell). Examples of targeting means include: sterols (e.g., cholesterol), lipids (e.g., a cationic lipid, virosome or liposome), viruses (e.g., adenovirus, adeno-associated virus, and retrovirus), or target cell-specific binding agents (e.g., ligands recognized by target cell specific receptors). Preferred complexes are sufficiently stable *in vivo* to prevent significant uncoupling prior to internalization by the target cell. However, the complex is cleavable under appropriate conditions within the cell so that the nucleic acid, protein, polypeptide or peptide is released in a functional form.

As is well known, genes or a particular polypeptide may exist in single or multiple copies within the genome of an individual. Such duplicate genes may be identical or may have certain modifications, including nucleotide substitutions, additions or deletions, which all still code for polypeptides having substantially the same activity. The term "DNA sequence encoding a polypeptide" may thus refer to one or more genes within a particular individual. Moreover, certain differences in nucleotide sequences may exist between individual organisms, which are called alleles. Such allelic differences may or may not result in differences in amino acid sequence of the encoded polypeptide yet still encode a polypeptide with the same biological activity.

The term "equivalent" is understood to include nucleotide sequences encoding functionally equivalent polypeptides. Equivalent nucleotide sequences will include sequences that differ by one or more nucleotide substitutions, additions or deletions, such as allelic variants; and will, therefore, include sequences that differ from the nucleotide sequence of the nucleic acids shown in SEQ ID NOs: 1-850 due to the degeneracy of the genetic code.

As used herein, the terms "gene", "recombinant gene", and "gene construct" refer to a nucleic acid of the present invention associated with an open reading frame, including both exon and (optionally) intron sequences.

A "recombinant gene" refers to nucleic acid encoding a polypeptide and comprising exon sequences, though it may optionally include intron sequences which are derived from, for example, a related or unrelated chromosomal gene. The term "intron" refers to a DNA sequence present in a given gene which is not translated into protein and is generally found between exons.

The term "growth" or "growth state" of a cell refers to the proliferative state of a cell as well as to its differentiative state. Accordingly, the term refers to the phase of the cell cycle in which the cell is, e.g., G0, G1, G2, prophase, metaphase, or telophase, as well as to its state of differentiation, e.g., undifferentiated, partially differentiated, or fully differentiated. Without wanting to be limited, differentiation of a cell is usually accompanied by a decrease in the proliferative rate of a cell.

"Homology" or "identity" or "similarity" refers to sequence similarity between two peptides or between two nucleic acid molecules, with identity being a more strict comparison. Homology and identity can each be determined by comparing a position in each sequence which may be aligned for purposes of comparison. When a position in the compared sequence is occupied by the same base or amino acid, then the molecules are identical at that position. A degree of homology or similarity or identity between nucleic acid sequences is a function of the number of identical or matching nucleotides at positions shared by the nucleic acid sequences. A degree of identity of amino acid sequences is a function of the number of identical amino acids at positions shared by the amino acid sequences. A degree of homology or similarity of amino acid sequences is a function of the number of amino acids, i.e., structurally related, at positions shared by the amino acid sequences. An "unrelated" or "non-homologous" sequence shares less than 40% identity, though preferably less than 25% identity, with one of the sequences of the present invention.

The term "percent identical" refers to sequence identity between two amino acid sequences or between two nucleotide sequences. Identity can each be determined by comparing a position in each sequence which may be aligned for purposes of comparison. When an equivalent position in the compared sequences is occupied by the same base or amino acid, then the molecules are identical at that position; when the equivalent site occupied by the same or a similar amino acid residue (e.g., similar in steric and/or electronic nature), then the molecules can be referred to as

homologous (similar) at that position. Expression as a percentage of homology, similarity, or identity refers to a function of the number of identical or similar amino acids at positions shared by the compared sequences. Various alignment algorithms and/or programs may be used, including FASTA, BLAST, or ENTREZ. FASTA and BLAST are available as a part of the GCG sequence analysis package (University of Wisconsin, Madison, Wis.), and can be used with, e.g., default settings. ENTREZ is available through the National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health, Bethesda, Md. In one embodiment, the percent identity of two sequences can be determined by the GCG program with a gap weight of 1, e.g., each amino acid gap is weighted as if it were a single amino acid or nucleotide mismatch between the two sequences.

Other techniques for alignment are described in Methods in Enzymology, vol. 266: Computer Methods for Macromolecular Sequence Analysis (1996), ed. Doolittle, Academic Press, Inc., a division of Harcourt Brace & Co., San Diego, California, USA. Preferably, an alignment program that permits gaps in the sequence is utilized to align the sequences. The Smith-Waterman is one type of algorithm that permits gaps in sequence alignments. See Meth. Mol. Biol. 70: 173-187 (1997). Also, the GAP program using the Needleman and Wunsch alignment method can be utilized to align sequences. An alternative search strategy uses MPSRCH software, which runs on a MASPAR computer. MPSRCH uses a Smith-Waterman algorithm to score sequences on a massively parallel computer. This approach improves ability to pick up distantly related matches, and is especially tolerant of small gaps and nucleotide sequence errors. Nucleic acid-encoded amino acid sequences can be used to search both protein and DNA databases.

Databases with individual sequences are described in Methods in Enzymology, ed. Doolittle, *supra*. Databases include Genbank, EMBL, and DNA Database of Japan (DDBJ).

Preferred nucleic acids have a sequence at least 70%, and more preferably 80% identical and more preferably 90% and even more preferably at least 95% identical to a nucleic acid sequence of a sequence shown in one of SEQ ID NOS: 1-850. Nucleic acids at least 90%, more preferably 95%, and most preferably at least about 98-99% identical with a nucleic sequence represented in one of SEQ ID NOS:

1-850 are of course also within the scope of the invention. In preferred embodiments, the nucleic acid is mammalian.

The term "interact" as used herein is meant to include detectable interactions (e.g., biochemical interactions) between molecules, such as interaction between
5 protein-protein, protein-nucleic acid, nucleic acid-nucleic acid, and protein-small molecule or nucleic acid-small molecule in nature.

The term "isolated" as used herein with respect to nucleic acids, such as DNA or RNA, refers to molecules separated from other DNAs, or RNAs, respectively, that are present in the natural source of the macromolecule. The term isolated as used
10 herein also refers to a nucleic acid or peptide that is substantially free of cellular material, viral material, or culture medium when produced by recombinant DNA techniques, or chemical precursors or other chemicals when chemically synthesized. Moreover, an "isolated nucleic acid" is meant to include nucleic acid fragments which are not naturally occurring as fragments and would not be found in the natural state.
15 The term "isolated" is also used herein to refer to polypeptides which are isolated from other cellular proteins and is meant to encompass both purified and recombinant polypeptides.

The terms "modulated" and "differentially regulated" as used herein refer to both upregulation (i.e., activation or stimulation (e.g., by agonizing or potentiating))
20 and downregulation (i.e., inhibition or suppression (e.g., by antagonizing, decreasing or inhibiting)).

The term "mutated gene" refers to an allelic form of a gene, which is capable of altering the phenotype of a subject having the mutated gene relative to a subject which does not have the mutated gene. If a subject must be homozygous for this
25 mutation to have an altered phenotype, the mutation is said to be recessive. If one copy of the mutated gene is sufficient to alter the genotype of the subject, the mutation is said to be dominant. If a subject has one copy of the mutated gene and has a phenotype that is intermediate between that of a homozygous and that of a heterozygous subject (for that gene), the mutation is said to be co-dominant.

30 The designation "N", where it appears in the accompanying Sequence Listing, indicates that the identity of the corresponding nucleotide is unknown. "N" should therefore not necessarily be interpreted as permitting substitution with any nucleotide,

e.g., A, T, C, or G, but rather as holding the place of a nucleotide whose identity has not been conclusively determined.

The "non-human animals" of the invention include mammals such as rodents, non-human primates, sheep, dog, cow, chickens, amphibians, reptiles, etc.

5 Preferred non-human animals are selected from the rodent family including rat and mouse, most preferably mouse, though transgenic amphibians, such as members of the *Xenopus* genus, and transgenic chickens can also provide important tools for understanding and identifying agents which can affect, for example, embryogenesis and tissue formation. The term "chimeric animal" is used herein to refer to animals in
10 which the recombinant gene is found, or in which the recombinant gene is expressed in some but not all cells of the animal. The term "tissue-specific chimeric animal" indicates that one of the recombinant genes is present and/or expressed or disrupted in some tissues but not others.

As used herein, the term "nucleic acid" refers to polynucleotides such as
15 deoxyribonucleic acid (DNA), and, where appropriate, ribonucleic acid (RNA). The term should also be understood to include, as equivalents, analogs of either RNA or DNA made from nucleotide analogs, and, as applicable to the embodiment being described, single (sense or antisense) and double-stranded polynucleotides. ESTs, chromosomes, cDNAs, mRNAs, and rRNAs are representative examples of molecules
20 that may be referred to as nucleic acids.

The term "nucleotide sequence complementary to the nucleotide sequence of SEQ ID NO. x" refers to the nucleotide sequence of the complementary strand of a nucleic acid strand having SEQ ID NO. x. The term "complementary strand" is used herein interchangeably with the term "complement". The complement of a nucleic
25 acid strand can be the complement of a coding strand or the complement of a non-coding strand.

The term "polymorphism" refers to the coexistence of more than one form of a gene or portion (e.g., allelic variant) thereof. A portion of a gene of which there are at least two different forms, i.e., two different nucleotide sequences, is referred to as a
30 "polymorphic region of a gene". A polymorphic region can be a single nucleotide, the identity of which differs in different alleles. A polymorphic region can also be several nucleotides long.

A "polymorphic gene" refers to a gene having at least one polymorphic region.

As used herein, the term "promoter" means a DNA sequence that regulates expression of a selected DNA sequence operably linked to the promoter, and which effects expression of the selected DNA sequence in cells. The term encompasses "tissue specific" promoters, i.e., promoters which effect expression of the selected DNA sequence only in specific cells (e.g., cells of a specific tissue). The term also covers so-called "leaky" promoters, which regulate expression of a selected DNA primarily in one tissue, but cause expression in other tissues as well. The term also encompasses non-tissue specific promoters and promoters that constitutively express or that are inducible (i.e., expression levels can be controlled).

The terms "protein", "polypeptide", and "peptide" are used interchangeably herein when referring to a gene product.

The term "recombinant protein" refers to a polypeptide of the present invention which is produced by recombinant DNA techniques, wherein generally, DNA encoding a polypeptide is inserted into a suitable expression vector which is in turn used to transform a host cell to produce the heterologous protein. Moreover, the phrase "derived from", with respect to a recombinant gene, is meant to include within the meaning of "recombinant protein" those proteins having an amino acid sequence of a native polypeptide, or an amino acid sequence similar thereto which is generated by mutations including substitutions and deletions (including truncation) of a naturally occurring form of the polypeptide.

"Small molecule" as used herein, is meant to refer to a composition, which has a molecular weight of less than about 5 kD and most preferably less than about 4 kD. Small molecules can be nucleic acids, peptides, polypeptides, peptidomimetics, carbohydrates, lipids or other organic (carbon-containing) or inorganic molecules. Many pharmaceutical companies have extensive libraries of chemical and/or biological mixtures, often fungal, bacterial, or algal extracts, which can be screened with any of the assays of the invention to identify compounds that modulate a bioactivity.

As used herein, the term "specifically hybridizes" or "specifically detects" refers to the ability of a nucleic acid molecule of the invention to hybridize to at least a portion of, for example approximately 6, 12, 15, 20, 30, 50, 100, 150, 200, 300, 350,

400, 500, 750 or 1000 contiguous nucleotides of a nucleic acid designated in any one of SEQ ID Nos: 1-850, or a sequence complementary thereto, or naturally occurring mutants thereof, such that it has less than 15%, preferably less than 10%, and more preferably less than 5% background hybridization to a cellular nucleic acid (e.g., mRNA or genomic DNA) encoding a different protein. In preferred embodiments, the oligonucleotide probe detects only a specific nucleic acid, e.g., it does not substantially hybridize to similar or related nucleic acids, or complements thereof.

"Transcriptional regulatory sequence" is a generic term used throughout the specification to refer to DNA sequences, such as initiation signals, enhancers, and promoters, which induce or control transcription of protein coding sequences with which they are operably linked. In preferred embodiments, transcription of one of the genes is under the control of a promoter sequence (or other transcriptional regulatory sequence) which controls the expression of the recombinant gene in a cell-type in which expression is intended. It will also be understood that the recombinant gene can be under the control of transcriptional regulatory sequences which are the same or which are different from those sequences which control transcription of the naturally-occurring forms of the polypeptide.

As used herein, the term "transfection" means the introduction of a nucleic acid, e.g., via an expression vector, into a recipient cell by nucleic acid-mediated gene transfer. "Transformation", as used herein, refers to a process in which a cell's genotype is changed as a result of the cellular uptake of exogenous DNA or RNA, and, for example, the transformed cell expresses a recombinant form of a polypeptide or, in the case of anti-sense expression from the transferred gene, the expression of the target gene is disrupted.

As used herein, the term "transgene" means a nucleic acid sequence (or an antisense transcript thereto) which has been introduced into a cell. A transgene could be partly or entirely heterologous, i.e., foreign, to the transgenic animal or cell into which it is introduced, or, is homologous to an endogenous gene of the transgenic animal or cell into which it is introduced, but which is designed to be inserted, or is inserted, into the animal's genome in such a way as to alter the genome of the cell into which it is inserted (e.g., it is inserted at a location which differs from that of the natural gene or its insertion results in a knockout). A transgene can also be present in

a cell in the form of an episome. A transgene can include one or more transcriptional regulatory sequences and any other nucleic acid, such as introns, that may be necessary for optimal expression of a selected nucleic acid.

A "transgenic animal" refers to any animal, preferably a non-human mammal, 5 bird or an amphibian, in which one or more of the cells of the animal contain heterologous nucleic acid introduced by way of human intervention, such as by transgenic techniques well known in the art. The nucleic acid is introduced into the cell, directly or indirectly by introduction into a precursor of the cell, by way of deliberate genetic manipulation, such as by microinjection or by infection with a 10 recombinant virus. The term genetic manipulation does not include classical cross-breeding, or *in vitro* fertilization, but rather is directed to the introduction of a recombinant DNA molecule. This molecule may be integrated within a chromosome, or it may be extra-chromosomally replicating DNA. In the typical transgenic animals described herein, the transgene causes cells to express a recombinant form of one of 15 the subject polypeptide, e.g. either agonistic or antagonistic forms. However, transgenic animals in which the recombinant gene is silent are also contemplated, as for example, the FLP or CRE recombinase dependent constructs described below. Moreover, "transgenic animal" also includes those recombinant animals in which gene disruption of one or more genes is caused by human intervention, including both 20 recombination and antisense techniques.

The term "treating" as used herein is intended to encompass curing as well as ameliorating at least one symptom of the condition or disease.

The term "vector" refers to a nucleic acid molecule capable of transporting 25 another nucleic acid to which it has been linked. One type of preferred vector is an episome, i.e., a nucleic acid capable of extra-chromosomal replication. Preferred vectors are those capable of autonomous replication and/or expression of nucleic acids to which they are linked. Vectors capable of directing the expression of genes to which they are operatively linked are referred to herein as "expression vectors". In general, expression vectors of utility in recombinant DNA techniques are often in the 30 form of "plasmids" which refer generally to circular double stranded DNA loops which, in their vector form are not bound to the chromosome. In the present specification, "plasmid" and "vector" are used interchangeably as the plasmid is the

most commonly used form of vector. However, the invention is intended to include such other forms of expression vectors which serve equivalent functions and which become known in the art subsequently hereto.

5 The term "wild-type allele" refers to an allele of a gene which, when present in two copies in a subject results in a wild-type phenotype. There can be several different wild-type alleles of a specific gene, since certain nucleotide changes in a gene may not affect the phenotype of a subject having two copies of the gene with the nucleotide changes.

10 III. Nucleic Acids of the Present Invention

As described below, one aspect of the invention pertains to isolated nucleic acids, variants, and/or equivalents of such nucleic acids.

15 Nucleic acids of the present invention have been identified as differentially expressed in tumor cells, e.g., colon cancer-derived cell lines (relative to the expression levels in normal tissue, e.g., normal colon tissue and/or normal non-colon tissue), such as SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto. In certain embodiments, the subject nucleic acids are differentially expressed by at least a factor of two, preferably at least a factor of five, even more preferably at least a factor of
20 twenty, still more preferably at least a factor of fifty. Preferred nucleic acids include sequences identified as differentially expressed both in colon cancer cell tissue and colon cancer cell lines. In preferred embodiments, nucleic acids of the present invention are upregulated in tumor cells, especially colon cancer tissue and/or colon cancer-derived cell lines. In another embodiment, nucleic acids of the present
25 invention are downregulated in tumor cells, especially colon cancer tissue and/or colon cancer-derived cell lines.

Table 1 indicates those sequences which are over- or underexpressed in a colon cancer-derived cell line relative to normal tissue, and further designates those sequences which are also differentially regulated in colon cancer tissue. The
30 designation O indicates that the corresponding sequence was overexpressed, M indicates possible overexpression, N indicates no differential expression, and U indicates underexpression.

Genes which are upregulated, such as oncogenes, or downregulated, such as tumor suppressors, in aberrantly proliferating cells may be targets for diagnostic or therapeutic techniques. For example, upregulation of the *cdc2* gene induces mitosis. Overexpression of the *myt1* gene, a mitotic deactivator, negatively regulates the activity of *cdc2*. Aberrant proliferation may thus be induced either by upregulating *cdc2* or by downregulating *myt1*. Similarly, downregulation of tumor suppressors such as *p53* and *Rb* have been implicated in tumorigenesis.

Particularly preferred polypeptides are those that are encoded by nucleic acid sequences at least about 70%, 75%, 80%, 90%, 95%, 97%, or 98% similar to a nucleic acid sequence of SEQ ID Nos. 1-850. Preferably, the nucleic acid includes all or a portion (e.g., at least about 12, at least about 15, at least about 25, or at least about 40 nucleotides) of the nucleotide sequence corresponding to the nucleic acid of SEQ ID Nos. 1-383, preferably SEQ ID Nos. 1-127, or a sequence complementary thereto.

Still other preferred nucleic acids of the present invention encode a polypeptide comprising at least a portion of a polypeptide encoded by one of SEQ ID Nos. 1-850. For example, preferred nucleic acid molecules for use as probes/primers or antisense molecules (i.e., noncoding nucleic acid molecules) can comprise at least about 12, 20, 30, 50, 60, 70, 80, 90, or 100 base pairs in length up to the length of the complete gene. Coding nucleic acid molecules can comprise, for example, from about 50, 60, 70, 80, 90, or 100 base pairs up to the length of the complete gene.

Another aspect of the invention provides a nucleic acid which hybridizes under low, medium, or high stringency conditions to a nucleic acid sequence represented by one of SEQ ID Nos. 1-383, preferably SEQ ID Nos. 1-127, or a sequence complementary thereto. Appropriate stringency conditions which promote DNA hybridization, for example, 6.0 x sodium chloride/sodium citrate (SSC) at about 45 °C, followed by a wash of 2.0 x SSC at 50 °C, are known to those skilled in the art or can be found in Current Protocols in Molecular Biology, John Wiley & Sons, N.Y. (1989), 6.3.1-12.3.6. For example, the salt concentration in the wash step can be selected from a low stringency of about 2.0 x SSC at 50 °C to a high stringency of about 0.2 x SSC at 50 °C. In addition, the temperature in the wash step can be increased from low stringency conditions at room temperature, about 22 °C, to high stringency conditions at about 65 °C. Both temperature and salt may be varied, or

temperature or salt concentration may be held constant while the other variable is changed. In a preferred embodiment, a nucleic acid of the present invention will bind to one of SEQ ID Nos. 1-383, preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, under moderately stringent conditions, for example at about 5 2.0 x SSC and about 40 °C. In a particularly preferred embodiment, a nucleic acid of the present invention will bind to one of SEQ ID Nos. 1-383, preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, under high stringency conditions.

In one embodiment, the invention provides nucleic acids which hybridize under low stringency conditions of 6 x SSC at room temperature followed by a wash 10 at 2 x SSC at room temperature.

In another embodiment, the invention provides nucleic acids which hybridize under high stringency conditions of 2 x SSC at 65 °C followed by a wash at 0.2 x SSC at 65 °C.

Nucleic acids having a sequence that differs from the nucleotide sequences 15 shown in one of SEQ ID Nos. 1-383, preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, due to degeneracy in the genetic code, are also within the scope of the invention. Such nucleic acids encode functionally equivalent peptides (i.e., a peptide having equivalent or similar biological activity) but differ in sequence from the sequence shown in the sequence listing due to degeneracy in the genetic 20 code. For example, a number of amino acids are designated by more than one triplet. Codons that specify the same amino acid, or synonyms (for example, CAU and CAC each encode histidine) may result in "silent" mutations which do not affect the amino acid sequence of a polypeptide. However, it is expected that DNA sequence polymorphisms that do lead to changes in the amino acid sequences of the subject 25 polypeptides will exist among mammals. One skilled in the art will appreciate that these variations in one or more nucleotides (e.g., up to about 3-5% of the nucleotides) of the nucleic acids encoding polypeptides having an activity of a polypeptide may exist among individuals of a given species due to natural allelic variation.

Also within the scope of the invention are nucleic acids encoding splicing 30 variants of proteins encoded by a nucleic acid of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence

complementary thereto, or natural homologs of such proteins. Such homologs can be cloned by hybridization or PCR, as further described herein.

The polynucleotide sequence may also encode for a leader sequence, e.g., the natural leader sequence or a heterologous leader sequence, for a subject polypeptide.

5 For example, the desired DNA sequence may be fused in the same reading frame to a DNA sequence which aids in expression and secretion of the polypeptide from the host cell, for example, a leader sequence which functions as a secretory sequence for controlling transport of the polypeptide from the cell. The protein having a leader sequence is a preprotein and may have the leader sequence cleaved by the host cell to
10 form the mature form of the protein.

The polynucleotide of the present invention may also be fused in frame to a marker sequence, also referred to herein as "Tag sequence" encoding a "Tag peptide", which allows for marking and/or purification of the polypeptide of the present invention. In a preferred embodiment, the marker sequence is a hexahistidine tag,
15 e.g., supplied by a PQE-9 vector. Numerous other Tag peptides are available commercially. Other frequently used Tags include myc-epitopes (e.g., see Ellison et al. (1991) *J Biol Chem* 266:21150-21157) which includes a 10-residue sequence from c-myc, the pFLAG system (International Biotechnologies, Inc.), the pEZZ-protein A system (Pharmacia, NJ), and a 16 amino acid portion of the *Haemophilus influenza*
20 hemagglutinin protein. Furthermore, any polypeptide can be used as a Tag so long as a reagent, e.g., an antibody interacting specifically with the Tag polypeptide is available or can be prepared or identified.

As indicated by the examples set out below, nucleic acids can be obtained from mRNA present in any of a number of eukaryotic cells, e.g., and are preferably
25 obtained from metazoan cells, more preferably from vertebrate cells, and even more preferably from mammalian cells. It should also be possible to obtain nucleic acids of the present invention from genomic DNA from both adults and embryos. For example, a gene can be cloned from either a cDNA or a genomic library in accordance with protocols generally known to persons skilled in the art. cDNA can be obtained by
30 isolating total mRNA from a cell, e.g., a vertebrate cell, a mammalian cell, or a human cell, including embryonic cells. Double stranded cDNAs can then be prepared from the total mRNA, and subsequently inserted into a suitable plasmid or bacteriophage

vector using any one of a number of known techniques. The gene can also be cloned using established polymerase chain reaction techniques in accordance with the nucleotide sequence information provided by the invention.

5 In certain embodiments, a nucleic acid, probe, vector, or other construct of the present invention includes at least about five, at least about ten, or at least about twenty nucleic acids from a region designated as novel in Table 2. In certain other embodiments, a nucleic acid of the present invention includes at least about five, at least about ten, or at least about twenty nucleic acids which are not included in the clones whose accession numbers are listed in Table 2.

10 The invention includes within its scope a polynucleotide having the nucleotide sequence of nucleic acid obtained from this biological material, wherein the nucleic acid hybridizes under stringent conditions (at least about 4 x SSC at 65°C, or at least about 4 x SSC at 42°C; see, for example, U.S. Patent No. 5,707,829, incorporated herein by reference) with at least 15 contiguous nucleotides of at least one of SEQ ID
15 Nos. 1-850. By this is intended that when at least 15 contiguous nucleotides of one of SEQ ID Nos. 1-850 is used as a probe, the probe will preferentially hybridize with a gene or mRNA (of the biological material) comprising the complementary sequence, allowing the identification and retrieval of the nucleic acids of the biological material that uniquely hybridize to the selected probe. Probes from more than one of SEQ ID
20 Nos. 1-850 will hybridize with the same gene or mRNA if the cDNA from which they were derived corresponds to one mRNA. Probes of more than 15 nucleotides can be used, but 15 nucleotides represents enough sequence for unique identification.

Because the present nucleic acids represent partial mRNA transcripts, two or more nucleic acids of the invention may represent different regions of the same
25 mRNA transcript and the same gene. Thus, if two or more of SEQ ID Nos. 1-850 are identified as belonging to the same clone, then either sequence can be used to obtain the full-length mRNA or gene.

Nucleic acid-related polynucleotides can also be isolated from cDNA libraries. These libraries are preferably prepared from mRNA of human colon cells, more
30 preferably, human colon cancer cells, even more preferably, from a human colon adenocarcinoma cell line, SW480. Alignment of SEQ ID Nos. 1-850, as described

above, can indicate that a cell line or tissue source of a related protein or polynucleotide can also be used as a source of the nucleic acid-related cDNA.

Techniques for producing and probing nucleic acid sequence libraries are described, for example, in Sambrook *et al.*, "Molecular Cloning: A Laboratory Manual" (New York, Cold Spring Harbor Laboratory, 1989). The cDNA can be prepared by using primers based on a sequence from SEQ ID Nos. 1-850. In one embodiment, the cDNA library can be made from only poly-adenylated mRNA. Thus, poly-T primers can be used to prepare cDNA from the mRNA. Alignment of SEQ ID Nos. 1-850 can result in identification of a related polypeptide or polynucleotide. Some of the polynucleotides disclosed herein contains repetitive regions that were subject to masking during the search procedures. The information about the repetitive regions is discussed below.

Constructs of polynucleotides having sequences of SEQ ID Nos. 1-850 can be generated synthetically. Alternatively, single-step assembly of a gene and entire plasmid from large numbers of oligodeoxyribonucleotides is described by Stemmer *et al.*, *Gene (Amsterdam)* (1995) 164(1):49-53. In this method, assembly PCR (the synthesis of long DNA sequences from large numbers of oligodeoxyribonucleotides (oligos)) is described. The method is derived from DNA shuffling (Stemmer, *Nature* (1994) 370:389-391), and does not rely on DNA ligase, but instead relies on DNA polymerase to build increasingly longer DNA fragments during the assembly process. For example, a 1.1-kb fragment containing the TEM-1 beta-lactamase-encoding gene (*bla*) can be assembled in a single reaction from a total of 56 oligos, each 40 nucleotides (nt) in length. The synthetic gene can be PCR amplified and cloned in a vector containing the tetracycline-resistance gene (Tc-R) as the sole selectable marker. Without relying on ampicillin (Ap) selection, 76% of the Tc-R colonies were Ap-R, making this approach a general method for the rapid and cost-effective synthesis of any gene.

IV. Identification of Functional and Structural Motifs of Novel Genes Using Art-Recognized Methods

Translations of the nucleotide sequence of the nucleic acids, cDNAs, or full genes can be aligned with individual known sequences. Similarity with individual

sequences can be used to determine the activity of the polypeptides encoded by the polynucleotides of the invention. For example, sequences that show similarity with a chemokine sequence may exhibit chemokine activities. Also, sequences exhibiting similarity with more than one individual sequence may exhibit activities that are
 5 characteristic of either or both individual sequences.

The full length sequences and fragments of the polynucleotide sequences of the nearest neighbors can be used as probes and primers to identify and isolate the full length sequence of the nucleic acid. The nearest neighbors can indicate a tissue or cell type to be used to construct a library for the full-length sequences of the nucleic acid.

10 Typically, the nucleic acids are translated in all six frames to determine the best alignment with the individual sequences. The sequences disclosed herein in the Sequence Listing are in a 5' to 3' orientation and translation in three frames can be sufficient (with a few specific exceptions as described in the Examples). These amino acid sequences are referred to, generally, as query sequences, which will be aligned
 15 with the individual sequences.

Nucleic acid sequences can be compared with known genes by any of the methods disclosed above. Results of individual and query sequence alignments can be divided into three categories: high similarity, weak similarity, and no similarity. Individual alignment results ranging from high similarity to weak similarity provide a
 20 basis for determining polypeptide activity and/or structure.

Parameters for categorizing individual results include: percentage of the alignment region length where the strongest alignment is found, percent sequence identity, and p value.

The percentage of the alignment region length is calculated by counting the
 25 number of residues of the individual sequence found in the region of strongest alignment. This number is divided by the total residue length of the query sequence to find a percentage. An example is shown below:

30	Query sequence:	ASNPERTMIPVTRVGLIRYM
	Individual sequence:	YMMTEYLAIPV.RVGLPRYM
		1 5 10 15

The region of alignment begins at amino acid 9 and ends at amino acid 19. The total length of the query sequence is 20 amino acids. The percent of the alignment region length is 11/20 or 55%.

Percent sequence identity is calculated by counting the number of amino acid matches between the query and individual sequence and dividing total number of matches by the number of residues of the individual sequence found in the region of strongest alignment. For the example above, the percent identity would be 10 matches divided by 11 amino acids, or approximately 90.9%.

P value is the probability that the alignment was produced by chance. For a single alignment, the p value can be calculated according to Karlin *et al.*, Proc. Natl. Acad. Sci. **87**: 2264 (1990) and Karlin *et al.*, Proc. Natl. Acad. Sci. **90**: (1993). The p value of multiple alignments using the same query sequence can be calculated using an heuristic approach described in Altschul *et al.*, Nat. Genet. **6**: 119 (1994). Alignment programs such as BLAST program can calculate the p value.

The boundaries of the region where the sequences align can be determined according to Doolittle, *Methods in Enzymology*, *supra*; BLAST or FASTA programs; or by determining the area where the sequence identity is highest.

Another factor to consider for determining identity or similarity is the location of the similarity or identity. Strong local alignment can indicate similarity even if the length of alignment is short. Sequence identity scattered throughout the length of the query sequence also can indicate a similarity between the query and profile sequences.

High Similarity**Error! Bookmark not defined.**

For the alignment results to be considered high similarity, the percent of the alignment region length, typically, is at least about 55% of total length query sequence; more typically, at least about 58%; even more typically, at least about 60% of the total residue length of the query sequence. Usually, percent length of the alignment region can be as much as about 62%; more usually, as much as about 64%; even more usually, as much as about 66%.

Further, for high similarity, the region of alignment, typically, exhibits at least about 75% of sequence identity; more typically, at least about 78%; even more typically, at least about 80% sequence identity. Usually, percent sequence identity

can be as much as about 82%; more usually, as much as about 84%; even more usually, as much as about 86%.

The p value is used in conjunction with these methods. If high similarity is found, the query sequence is considered to have high similarity with a profile
5 sequence when the p value is less than or equal to about 10^{-2} ; more usually; less than or equal to about 10^{-3} ; even more usually; less than or equal to about 10^{-4} . More typically, the p value is no more than about 10^{-5} ; more typically; no more than or equal to about 10^{-10} ; even more typically; no more than or equal to about 10^{-15} for the query sequence to be considered high similarity.

10

Weak Similarity

For the alignment results to be considered weak similarity, there is no minimum percent length of the alignment region nor minimum length of alignment. A better showing of weak similarity is considered when the region of alignment is,
15 typically, at least about 15 amino acid residues in length; more typically, at least about 20; even more typically; at least about 25 amino acid residues in length. Usually, length of the alignment region can be as much as about 30 amino acid residues; more usually, as much as about 40; even more usually, as much as about 60 amino acid residues.

20 Further, for weak similarity, the region of alignment, typically, exhibits at least about 35% of sequence identity; more typically, at least about 40%; even more typically; at least about 45% sequence identity. Usually, percent sequence identity can be as much as about 50%; more usually, as much as about 55%; even more usually, as much as about 60%.

25 If low similarity is found, the query sequence is considered to have weak similarity with a profile sequence when the p value is usually less than or equal to about 10^{-2} ; more usually; less than or equal to about 10^{-3} ; even more usually; less than or equal to about 10^{-4} . More typically, the p value is no more than about 10^{-5} ; more usually; no more than or equal to about 10^{-10} ; even more usually; no more than or
30 equal to about 10^{-15} for the query sequence to be considered weak similarity.

Similarity Determined by Sequence Identity Alone**Error! Bookmark not defined.**

Sequence identity alone can be used to determine similarity of a query sequence to an individual sequence and can indicate the activity of the sequence. Such an alignment, preferably, permits gaps to align sequences. Typically, the query sequence is related to the profile sequence if the sequence identity over the entire query sequence is at least about 15%; more typically, at least about 20%; even more typically, at least about 25%; even more typically, at least about 50%. Sequence identity alone as a measure of similarity is most useful when the query sequence is usually, at least 80 residues in length; more usually, 90 residues; even more usually, at least 95 amino acid residues in length. More typically, similarity can be concluded based on sequence identity alone when the query sequence is preferably 100 residues in length; more preferably, 120 residues in length; even more preferably, 150 amino acid residues in length.

Determining Activity from Alignments with Profile and Multiple Aligned Sequences

Translations of the nucleic acids can be aligned with amino acid profiles that define either protein families or common motifs. Also, translations of the nucleic acids can be aligned to multiple sequence alignments (MSA) comprising the polypeptide sequences of members of protein families or motifs. Similarity or identity with profile sequences or MSAs can be used to determine the activity of the polypeptides encoded by nucleic acids or corresponding cDNA or genes. For example, sequences that show an identity or similarity with a chemokine profile or MSA can exhibit chemokine activities.

Profiles can be designed manually by (1) creating a MSA, which is an alignment of the amino acid sequence of members that belong to the family and (2) constructing a statistical representation of the alignment. Such methods are described, for example, in Birney *et al.*, Nucl. Acid Res. **24(14)**: 2730-2739 (1996).

MSAs of some protein families and motifs are publicly available. For example, these include MSAs of 547 different families and motifs. These MSAs are described also in Sonnhammer *et al.*, Proteins **28**: 405-420 (1997). Other sources are also available in the world wide web. A brief description of these MSAs is reported in Pascarella *et al.*, Prot. Eng. **9(3)**: 249-251 (1996).

Techniques for building profiles from MSAs are described in Sonnhammer *et al.*, *supra*; Birney *et al.*, *supra*; and Methods in Enzymology, vol. 266: "Computer Methods for Macromolecular Sequence Analysis," 1996, ed. Doolittle, Academic Press, Inc., a division of Harcourt Brace & Co., San Diego, California, USA.

- 5 Similarity between a query sequence and a protein family or motif can be determined by (a) comparing the query sequence against the profile and/or (b) aligning the query sequence with the members of the family or motif.

Typically, a program such as Searchwise can be used to compare the query sequence to the statistical representation of the multiple alignment, also known as a
10 profile. The program is described in Birney *et al.*, *supra*. Other techniques to compare the sequence and profile are described in Sonnhammer *et al.*, *supra* and Doolittle, *supra*.

Next, methods described by Feng *et al.*, J. Mol. Evol. 25: 351-360 (1987) and Higgins *et al.*, CABIOS 5: 151-153 (1989) can be used align the query sequence with
15 the members of a family or motif, also known as a MSA. Computer programs, such as PILEUP, can be used. See Feng *et al.*, *infra*.

The following factors are used to determine if a similarity between a query sequence and a profile or MSA exists: (1) number of conserved residues found in the query sequence, (2) percentage of conserved residues found in the query sequence, (3)
20 number of frameshifts, and (4) spacing between conserved residues.

Some alignment programs that both translate and align sequences can make any number of frameshifts when translating the nucleotide sequence to produce the best alignment. The fewer frameshifts needed to produce an alignment, the stronger the similarity or identity between the query and profile or MSAs. For example, a
25 weak similarity resulting from no frameshifts can be a better indication of activity or structure of a query sequence, than a strong similarity resulting from two frameshifts. Preferably, three or fewer frameshifts are found in an alignment; more preferably two or fewer frameshifts; even more preferably, one or fewer frameshifts; even more preferably, no frameshifts are found in an alignment of query and profile or MSAs.

30 Conserved residues are those amino acids that are found at a particular position in all or some of the family or motif members. For example, most known chemokines contain four conserved cysteines. Alternatively, a position is considered

conserved if only a certain class of amino acids is found in a particular position in all or some of the family members. For example, the N-terminal position may contain a positively charged amino acid, such as lysine, arginine, or histidine.

Typically, a residue of a polypeptide is conserved when a class of amino acids
5 or a single amino acid is found at a particular position in at least about 40% of all class members; more typically, at least about 50%; even more typically, at least about 60% of the members. Usually, a residue is conserved when a class or single amino acid is found in at least about 70% of the members of a family or motif; more usually, at least about 80%; even more usually, at least about 90%; even more usually, at least
10 about 95%.

A residue is considered conserved when three unrelated amino acids are found at a particular position in the some or all of the members; more usually, two unrelated amino acids. These residues are conserved when the unrelated amino acids are found at particular positions in at least about 40% of all class member; more typically, at
15 least about 50%; even more typically, at least about 60% of the members. Usually, a residue is conserved when a class or single amino acid is found in at least about 70% of the members of a family or motif; more usually, at least about 80%; even more usually, at least about 90%; even more usually, at least about 95%.

A query sequence has similarity to a profile or MSA when the query sequence
20 comprises at least about 25% of the conserved residues of the profile or MSA; more usually, at least about 30%; even more usually; at least about 40%. Typically, the query sequence has a stronger similarity to a profile sequence or MSA when the query sequence comprises at least about 45% of the conserved residues of the profile or MSA; more typically, at least about 50%; even more typically; at least about 55%.

25

V. Probes and Primers

The nucleotide sequences determined from the cloning of genes from tumor cells, especially colon cancer cell lines and tissues will further allow for the generation of probes and primers designed for identifying and/or cloning homologs in
30 other cell types, e.g., from other tissues, as well as homologs from other mammalian organisms. Nucleotide sequences useful as probes/primers may include all or a portion of the sequences listed in SEQ ID Nos. 1-850 or sequences complementary

thereto or sequences which hybridize under stringent conditions to all or a portion of SEQ ID Nos. 1-850. For instance, the present invention also provides a probe/primer comprising a substantially purified oligonucleotide, which oligonucleotide comprising a nucleotide sequence that hybridizes under stringent conditions to at least
5 approximately 12, preferably 25, more preferably 40, 50, or 75 consecutive nucleotides up to the full length of the sense or anti-sense sequence selected from the group consisting of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, or naturally occurring mutants thereof. For instance, primers based on a nucleic acid represented
10 in SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, can be used in PCR reactions to clone homologs of that sequence.

In yet another embodiment, the invention provides probes/primers comprising a nucleotide sequence that hybridizes under moderately stringent conditions to at least
15 approximately 12, 16, 25, 40, 50 or 75 consecutive nucleotides up to the full length of the sense or antisense sequence selected from the group consisting of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or naturally occurring mutants thereof.

In particular, these probes are useful because they provide a method for
20 detecting mutations in wild-type genes of the present invention. Nucleic acid probes which are complementary to a wild-type gene of the present invention and can form mismatches with mutant genes are provided, allowing for detection by enzymatic or chemical cleavage or by shifts in electrophoretic mobility.

Likewise, probes based on the subject sequences can be used to detect
25 transcripts or genomic sequences encoding the same or homologous proteins, for use, for example, in prognostic or diagnostic assays. In preferred embodiments, the probe further comprises a label group attached thereto and able to be detected, e.g., the label group is selected from radioisotopes, fluorescent compounds, chemiluminescent compounds, enzymes, and enzyme co-factors.

30 Full-length cDNA molecules comprising the disclosed nucleic acids are obtained as follows. A subject nucleic acid or a portion thereof comprising at least about 12, 15, 18, or 20 nucleotides up to the full length of a sequence represented in

SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, may be used as a hybridization probe to detect hybridizing members of a cDNA library using probe design methods, cloning methods, and clone selection techniques as described in U.S. Patent No.

- 5 5,654,173, "Secreted Proteins and Polynucleotides Encoding Them," incorporated herein by reference. Libraries of cDNA may be made from selected tissues, such as normal or tumor tissue, or from tissues of a mammal treated with, for example, a pharmaceutical agent. Preferably, the tissue is the same as that used to generate the nucleic acids, as both the nucleic acid and the cDNA represent expressed genes. Most
- 10 preferably, the cDNA library is made from the biological material described herein in the Examples. Alternatively, many cDNA libraries are available commercially. (Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual*, 2nd Ed. (Cold Spring Harbor Press, Cold Spring Harbor, NY 1989). The choice of cell type for library construction may be made after the identity of the protein encoded by the nucleic
- 15 acid-related gene is known. This will indicate which tissue and cell types are likely to express the related gene, thereby containing the mRNA for generating the cDNA.

- Members of the library that are larger than the nucleic acid, and preferably that contain the whole sequence of the native message, may be obtained. To confirm that the entire cDNA has been obtained, RNA protection experiments may be performed
- 20 as follows. Hybridization of a full-length cDNA to an mRNA may protect the RNA from RNase degradation. If the cDNA is not full length, then the portions of the mRNA that are not hybridized may be subject to RNase degradation. This may be assayed, as is known in the art, by changes in electrophoretic mobility on polyacrylamide gels, or by detection of released monoribonucleotides. Sambrook *et*
- 25 *al.*, *Molecular Cloning: A Laboratory Manual*, 2nd Ed. (Cold Spring Harbor Press, Cold Spring Harbor, NY 1989). In order to obtain additional sequences 5' to the end of a partial cDNA, 5' RACE (PCR Protocols: A Guide to Methods and Applications (Academic Press, Inc. 1990)) may be performed.

- Genomic DNA may be isolated using nucleic acids in a manner similar to the
- 30 isolation of full-length cDNAs. Briefly, the nucleic acids, or portions thereof, may be used as probes to libraries of genomic DNA. Preferably, the library is obtained from the cell type that was used to generate the nucleic acids. Most preferably, the genomic

DNA is obtained from the biological material described herein in the Example. Such libraries may be in vectors suitable for carrying large segments of a genome, such as P1 or YAC, as described in detail in Sambrook *et al.*, 9.4-9.30. In addition, genomic sequences can be isolated from human BAC libraries, which are commercially
5 available from Research Genetics, Inc., Huntsville, Alabama, USA, for example. In order to obtain additional 5' or 3' sequences, chromosome walking may be performed, as described in Sambrook *et al.*, such that adjacent and overlapping fragments of genomic DNA are isolated. These may be mapped and pieced together, as is known in the art, using restriction digestion enzymes and DNA ligase.

10 Using the nucleic acids of the invention, corresponding full length genes can be isolated using both classical and PCR methods to construct and probe cDNA libraries. Using either method, Northern blots, preferably, may be performed on a number of cell types to determine which cell lines express the gene of interest at the highest rate.

15 Classical methods of constructing cDNA libraries are taught in Sambrook *et al.*, supra. With these methods, cDNA can be produced from mRNA and inserted into viral or expression vectors. Typically, libraries of mRNA comprising poly(A) tails can be produced with poly(T) primers. Similarly, cDNA libraries can be produced using the instant sequences as primers.

20 PCR methods may be used to amplify the members of a cDNA library that comprise the desired insert. In this case, the desired insert may contain sequence from the full length cDNA that corresponds to the instant nucleic acids. Such PCR methods include gene trapping and RACE methods.

Gene trapping may entail inserting a member of a cDNA library into a vector.
25 The vector then may be denatured to produce single stranded molecules. Next, a substrate-bound probe, such a biotinylated oligo, may be used to trap cDNA inserts of interest. Biotinylated probes can be linked to an avidin-bound solid substrate. PCR methods can be used to amplify the trapped cDNA. To trap sequences corresponding to the full length genes, the labeled probe sequence may be based on the nucleic acids
30 of the invention, e.g., SEQ ID Nos. 1-383, preferably SEQ ID Nos. 1-127, or a sequence complementary thereto. Random primers or primers specific to the library vector can be used to amplify the trapped cDNA. Such gene trapping techniques are

described in Gruber *et al.*, PCT WO 95/04745 and Gruber *et al.*, U.S. Pat. No. 5,500,356. Kits are commercially available to perform gene trapping experiments from, for example, Life Technologies, Gaithersburg, Maryland, USA.

5 "Rapid amplification of cDNA ends," or RACE, is a PCR method of amplifying cDNAs from a number of different RNAs. The cDNAs may be ligated to an oligonucleotide linker and amplified by PCR using two primers. One primer may be based on sequence from the instant nucleic acids, for which full length sequence is desired, and a second primer may comprise a sequence that hybridizes to the oligonucleotide linker to amplify the cDNA. A description of this method is reported
10 in PCT Pub. No. WO 97/19110.

In preferred embodiments of RACE, a common primer may be designed to anneal to an arbitrary adaptor sequence ligated to cDNA ends (Apte and Siebert, Biotechniques 15:890-893, 1993; Edwards *et al.*, Nuc. Acids Res. 19:5227-5232, 1991). When a single gene-specific RACE primer is paired with the common primer,
15 preferential amplification of sequences between the single gene specific primer and the common primer occurs. Commercial cDNA pools modified for use in RACE are available.

Another PCR-based method generates full-length cDNA library with anchored ends without specific knowledge of the cDNA sequence. The method uses lock-
20 docking primers (I-VI), where one primer, poly TV (I-III) locks over the polyA tail of eukaryotic mRNA producing first strand synthesis and a second primer, polyGH (IV-VI) locks onto the polyC tail added by terminal deoxynucleotidyl transferase (TdT). This method is described in PCT Pub. No. WO 96/40998.

The promoter region of a gene generally is located 5' to the initiation site for
25 RNA polymerase II. Hundreds of promoter regions contain the "TATA" box, a sequence such as TATTA or TATAA, which is sensitive to mutations. The promoter region can be obtained by performing 5' RACE using a primer from the coding region of the gene. Alternatively, the cDNA can be used as a probe for the genomic sequence, and the region 5' to the coding region is identified by "walking up."

30 If the gene is highly expressed or differentially expressed, the promoter from the gene may be of use in a regulatory construct for a heterologous gene.

Once the full-length cDNA or gene is obtained, DNA encoding variants can be prepared by site-directed mutagenesis, described in detail in Sambrook *et al.*, 15.3-15.63. The choice of codon or nucleotide to be replaced can be based on the disclosure herein on optional changes in amino acids to achieve altered protein structure and/or function.

As an alternative method to obtaining DNA or RNA from a biological material, nucleic acid comprising nucleotides having the sequence of one or more nucleic acids of the invention can be synthesized. Thus, the invention encompasses nucleic acid molecules ranging in length from 12 nucleotides (corresponding to at least 12 contiguous nucleotides which hybridize under stringent conditions to or are at least 80% identical to a nucleic acid represented by one of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto) up to a maximum length suitable for one or more biological manipulations, including replication and expression, of the nucleic acid molecule. The invention includes but is not limited to (a) nucleic acid having the size of a full gene, and comprising at least one of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto; (b) the nucleic acid of (a) also comprising at least one additional gene, operably linked to permit expression of a fusion protein; (c) an expression vector comprising (a) or (b); (d) a plasmid comprising (a) or (b); and (e) a recombinant viral particle comprising (a) or (b). Construction of (a) can be accomplished as described below in part IV.

The sequence of a nucleic acid of the present invention is not limited and can be any sequence of A, T, G, and/or C (for DNA) and A, U, G, and/or C (for RNA) or modified bases thereof, including inosine and pseudouridine. The choice of sequence will depend on the desired function and can be dictated by coding regions desired, the intron-like regions desired, and the regulatory regions desired.

VI. Vectors Carrying Nucleic Acids of the Present Invention

The invention further provides plasmids and vectors, which can be used to express a gene in a host cell. The host cell may be any prokaryotic or eukaryotic cell. Thus, a nucleotide sequence derived from any one of SEQ ID Nos. 1-850, preferably

SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, encoding all or a selected portion of a protein, can be used to produce a recombinant form of a polypeptide via microbial or eukaryotic cellular processes. Ligating the polynucleotide sequence into a gene construct, such as an expression vector, and transforming or transfecting into hosts, either eukaryotic (yeast, avian, insect or mammalian) or prokaryotic (bacterial cells), are standard procedures well known in the art.

Vectors that allow expression of a nucleic acid in a cell are referred to as expression vectors. Typically, expression vectors contain a nucleic acid operably linked to at least one transcriptional regulatory sequence. Regulatory sequences are art-recognized and are selected to direct expression of the subject nucleic acids. Transcriptional regulatory sequences are described in Goeddel; Gene Expression Technology: Methods in Enzymology 185, Academic Press, San Diego, CA (1990). In one embodiment, the expression vector includes a recombinant gene encoding a peptide having an agonistic activity of a subject polypeptide, or alternatively, encoding a peptide which is an antagonistic form of a subject polypeptide.

The choice of plasmid will depend on the type of cell in which propagation is desired and the purpose of propagation. Certain vectors are useful for amplifying and making large amounts of the desired DNA sequence. Other vectors are suitable for expression in cells in culture. Still other vectors are suitable for transfer and expression in cells in a whole animal or person. The choice of appropriate vector is well within the skill of the art. Many such vectors are available commercially. The nucleic acid or full-length gene is inserted into a vector typically by means of DNA ligase attachment to a cleaved restriction enzyme site in the vector. Alternatively, the desired nucleotide sequence may be inserted by homologous recombination in vivo. Typically this is accomplished by attaching regions of homology to the vector on the flanks of the desired nucleotide sequence. Regions of homology are added by ligation of oligonucleotides, or by polymerase chain reaction using primers comprising both the region of homology and a portion of the desired nucleotide sequence, for example.

Nucleic acids or full-length genes are linked to regulatory sequences as appropriate to obtain the desired expression properties. These may include promoters (attached either at the 5' end of the sense strand or at the 3' end of the antisense

strand), enhancers, terminators, operators, repressors, and inducers. The promoters may be regulated or constitutive. In some situations it may be desirable to use conditionally active promoters, such as tissue-specific or developmental stage-specific promoters. These are linked to the desired nucleotide sequence using the techniques
5 described above for linkage to vectors. Any techniques known in the art may be used.

When any of the above host cells, or other appropriate host cells or organisms, are used to replicate and/or express the polynucleotides or nucleic acids of the invention, the resulting replicated nucleic acid, RNA, expressed protein or polypeptide, is within the scope of the invention as a product of the host cell or
10 organism. The product is recovered by any appropriate means known in the art.

Once the gene corresponding to the nucleic acid is identified, its expression can be regulated in the cell to which the gene is native. For example, an endogenous gene of a cell can be regulated by an exogenous regulatory sequence as disclosed in U.S. Patent No. 5,641,670, "Protein Production and Protein Delivery."

15 A number of vectors exist for the expression of recombinant proteins in yeast (see, for example, Broach *et al.* (1983) in *Experimental Manipulation of Gene Expression*, ed. M. Inouye, Academic Press, p. 83, incorporated by reference herein). In addition, drug resistance markers such as ampicillin can be used. In an illustrative embodiment, a polypeptide is produced recombinantly utilizing an expression vector
20 generated by sub-cloning one of the nucleic acids represented in one of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto.

The preferred mammalian expression vectors contain both prokaryotic sequences, to facilitate the propagation of the vector in bacteria, and one or more
25 eukaryotic transcription units that are expressed in eukaryotic cells. The various methods employed in the preparation of plasmids and transformation of host organisms are well known in the art. For other suitable expression systems for both prokaryotic and eukaryotic cells, as well as general recombinant procedures, see *Molecular Cloning: A Laboratory Manual*, 2nd Ed., ed. by Sambrook, Fritsch and
30 Maniatis (Cold Spring Harbor Laboratory Press: 1989) Chapters 16 and 17.

When it is desirable to express only a portion of a gene, e.g., a truncation mutant, it may be necessary to add a start codon (ATG) to the oligonucleotide fragment

containing the desired sequence to be expressed. It is well known in the art that a methionine at the N-terminal position can be enzymatically cleaved by the use of the enzyme methionine aminopeptidase (MAP). MAP has been cloned from *E. coli* (Ben-Bassat *et al.* (1987) *J. Bacteriol.* 169:751-757) and *Salmonella typhimurium* and its *in vitro* activity has been demonstrated on recombinant proteins (Miller *et al.* (1987) *PNAS* 84:2718-1722). Therefore, removal of an N-terminal methionine, if desired, can be achieved either *in vivo* by expressing polypeptides in a host which produces MAP (e.g., *E. coli* or CM89 or *S. cerevisiae*), or *in vitro* by use of purified MAP (e.g., procedure of Miller *et al.*, *supra*).

Moreover, the nucleic acid constructs of the present invention can also be used as part of a gene therapy protocol to deliver nucleic acids such as antisense nucleic acids. Thus, another aspect of the invention features expression vectors for *in vivo* or *in vitro* transfection with an antisense oligonucleotide.

In addition to viral transfer methods, non-viral methods can also be employed to introduce a subject nucleic acid, e.g., a sequence represented by one of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, into the tissue of an animal. Most nonviral methods of gene transfer rely on normal mechanisms used by mammalian cells for the uptake and intracellular transport of macromolecules. In preferred embodiments, non-viral targeting means of the present invention rely on endocytic pathways for the uptake of the subject nucleic acid by the targeted cell. Exemplary targeting means of this type include liposomal derived systems, polylysine conjugates, and artificial viral envelopes.

A nucleic acid of any of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, the corresponding cDNA, or the full-length gene may be used to express the partial or complete gene product. Appropriate nucleic acid constructs are purified using standard recombinant DNA techniques as described in, for example, Sambrook *et al.*, (1989) *Molecular Cloning: A Laboratory Manual*, 2nd ed. (Cold Spring Harbor Press, Cold Spring Harbor, New York), and under current regulations described in United States Dept. of HHS, National Institute of Health (NIH) Guidelines for Recombinant DNA Research. The polypeptides encoded by the nucleic acid may be expressed in

any expression system, including, for example, bacterial, yeast, insect, amphibian and mammalian systems. Suitable vectors and host cells are described in U.S. Patent No. 5,654,173.

Bacteria. Expression systems in bacteria include those described in Chang *et al.*, *Nature* (1978) 275:615, Goeddel *et al.*, *Nature* (1979) 281:544, Goeddel *et al.*, *Nucleic Acids Res.* (1980) 8:4057; EP 0 036,776, U.S. Patent No. 4,551,433, DeBoer *et al.*, *Proc. Natl. Acad. Sci. (USA)* (1983) 80:2125, and Siebenlist *et al.*, *Cell* (1980) 20:269.

Yeast. Expression systems in yeast include those described in Hinnen *et al.*, *Proc. Natl. Acad. Sci. (USA)* (1978) 75:1929; Ito *et al.*, *J. Bacteriol.* (1983) 153:163; Kurtz *et al.*, *Mol. Cell. Biol.* (1986) 6:142; Kunze *et al.*, *J. Basic Microbiol.* (1985) 25:141; Gleeson *et al.*, *J. Gen. Microbiol.* (1986) 132:3459, Roggenkamp *et al.*, *Mol. Gen. Genet.* (1986) 202:302) Das *et al.*, *J. Bacteriol.* (1984) 158:1165; De Louvencourt *et al.*, *J. Bacteriol.* (1983) 154:737, Van den Berg *et al.*, *Bio/Technology* (1990) 8:135; Kunze *et al.*, *J. Basic Microbiol.* (1985) 25:141; Cregg *et al.*, *Mol. Cell. Biol.* (1985) 5:3376, U.S. Patent Nos. 4,837,148 and 4,929,555; Beach and Nurse, *Nature* (1981) 300:706; Davidow *et al.*, *Curr. Genet.* (1985) 10:380, Gaillardin *et al.*, *Curr. Genet.* (1985) 10:49, Ballance *et al.*, *Biochem. Biophys. Res. Commun.* (1983) 112:284289; Tilburn *et al.*, *Gene* (1983) 26:205221, Yelton *et al.*, *Proc. Natl. Acad. Sci. (USA)* (1984) 81:14701474, Kelly and Hynes, *EMBO J.* (1985) 4:475479; EP 0 244,234, and WO 91/00357.

Insect Cells. Expression of heterologous genes in insects is accomplished as described in U.S. Patent No. 4,745,051, Friesen *et al.* (1986) "The Regulation of Baculovirus Gene Expression" in: *The Molecular Biology Of Baculoviruses* (W. Doerfler, ed.), EP 0 127,839, EP 0 155,476, and Vlak *et al.*, *J. Gen. Virol.* (1988) 69:765776, Miller *et al.*, *Ann. Rev. Microbiol.* (1988) 42:177, Carbonell *et al.*, *Gene* (1988) 73:409, Maeda *et al.*, *Nature* (1985) 315:592594, LebacqVerheyden *et al.*, *Mol. Cell. Biol.* (1988) 8:3129; Smith *et al.*, *Proc. Natl. Acad. Sci. (USA)* (1985) 82:8404, Miyajima *et al.*, *Gene* (1987) 58:273; and Martin *et al.*, *DNA* (1988) 7:99.

Numerous baculoviral strains and variants and corresponding permissive insect host cells from hosts are described in Luckow *et al.*, *Bio/Technology* (1988) 6:4755, Miller

et al., Generic Engineering (Setlow, J.K. *et al.* eds.), Vol. 8 (Plenum Publishing, 1986), pp. 277279, and Maeda *et al.*, *Nature*, (1985) 315:592-594.

Mammalian Cells. Mammalian expression is accomplished as described in Dijkema *et al.*, *EMBO J.* (1985) 4:761, Gorman *et al.*, *Proc. Natl. Acad. Sci. (USA)* (1982) 79:6777, Boshart *et al.*, *Cell* (1985) 41:521 and U.S. Patent No. 4,399,216.

Other features of mammalian expression are facilitated as described in Ham and Wallace, *Meth. Enz.* (1979) 58:44, Barnes and Sato, *Anal. Biochem.* (1980) 102:255, U.S. Patent Nos. 4,767,704, 4,657,866, 4,927,762, 4,560,655, WO 90/103430, WO 87/00195, and U.S. RE 30,985.

VII. Therapeutic Nucleic Acid Constructs

One aspect of the invention relates to the use of the isolated nucleic acid, e.g., SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, in antisense therapy. As used herein, antisense therapy refers to administration or *in situ* generation of oligonucleotide molecules or their derivatives which specifically hybridize (e.g., bind) under cellular conditions with the cellular mRNA and/or genomic DNA, thereby inhibiting transcription and/or translation of that gene. The binding may be by conventional base pair complementarity, or, for example, in the case of binding to DNA duplexes, through specific interactions in the major groove of the double helix. In general, antisense therapy refers to the range of techniques generally employed in the art, and includes any therapy which relies on specific binding to oligonucleotide sequences.

An antisense construct of the present invention can be delivered, for example, as an expression plasmid which, when transcribed in the cell, produces RNA which is complementary to at least a unique portion of the cellular mRNA. Alternatively, the antisense construct is an oligonucleotide probe which is generated *ex vivo* and which, when introduced into the cell, causes inhibition of expression by hybridizing with the mRNA and/or genomic sequences of a subject nucleic acid. Such oligonucleotide probes are preferably modified oligonucleotides which are resistant to endogenous nucleases, e.g., exonucleases and/or endonucleases, and are therefore stable *in vivo*. Exemplary nucleic acid molecules for use as antisense oligonucleotides are

phosphoramidate, phosphorothioate and methylphosphonate analogs of DNA (see also U.S. Patents 5,176,996; 5,264,564; and 5,256,775). Additionally, general approaches to constructing oligomers useful in antisense therapy have been reviewed, for example, by Van der Krol et al. (1988) *BioTechniques* 6:958-976; and Stein et al. (1988) *Cancer Res* 48:2659-2668. With respect to antisense DNA, oligodeoxyribonucleotides derived from the translation initiation site, e.g., between the -10 and +10 regions of the nucleotide sequence of interest, are preferred.

Antisense approaches involve the design of oligonucleotides (either DNA or RNA) that are complementary to mRNA. The antisense oligonucleotides will bind to the mRNA transcripts and prevent translation. Absolute complementarity, although preferred, is not required. In the case of double-stranded antisense nucleic acids, a single strand of the duplex DNA may thus be tested, or triplex formation may be assayed. The ability to hybridize will depend on both the degree of complementarity and the length of the antisense nucleic acid. Generally, the longer the hybridizing nucleic acid, the more base mismatches with an RNA it may contain and still form a stable duplex (or triplex, as the case may be). One skilled in the art can ascertain a tolerable degree of mismatch by use of standard procedures to determine the melting point of the hybridized complex.

Oligonucleotides that are complementary to the 5' end of the mRNA, e.g., the 5' untranslated sequence up to and including the AUG initiation codon, should work most efficiently at inhibiting translation. However, sequences complementary to the 3' untranslated sequences of mRNAs have recently been shown to be effective at inhibiting translation of mRNAs as well. (Wagner, R. 1994. *Nature* 372:333). Therefore, oligonucleotides complementary to either the 5' or 3' untranslated, non-coding regions of a gene could be used in an antisense approach to inhibit translation of endogenous mRNA. Oligonucleotides complementary to the 5' untranslated region of the mRNA should include the complement of the AUG start codon. Antisense oligonucleotides complementary to mRNA coding regions are typically less efficient inhibitors of translation but could also be used in accordance with the invention. Whether designed to hybridize to the 5', 3', or coding region of subject mRNA, antisense nucleic acids should be at least six nucleotides in length, and are preferably

less than about 100 and more preferably less than about 50, 25, 17 or 10 nucleotides in length.

Regardless of the choice of target sequence, it is preferred that *in vitro* studies are first performed to quantitate the ability of the antisense oligonucleotide to
5 quantitate the ability of the antisense oligonucleotide to inhibit gene expression. It is preferred that these studies utilize controls that distinguish between antisense gene inhibition and nonspecific biological effects of oligonucleotides. It is also preferred that these studies compare levels of the target RNA or protein with that of an internal control RNA or protein. Additionally, it is envisioned that results obtained using the
10 antisense oligonucleotide are compared with those obtained using a control oligonucleotide. It is preferred that the control oligonucleotide is of approximately the same length as the test oligonucleotide and that the nucleotide sequence of the oligonucleotide differs from the antisense sequence no more than is necessary to prevent specific hybridization to the target sequence.

15 The oligonucleotides can be DNA or RNA or chimeric mixtures or derivatives or modified versions thereof, single-stranded or double-stranded. The oligonucleotide can be modified at the base moiety, sugar moiety, or phosphate backbone, for example, to improve stability of the molecule, hybridization, etc. The oligonucleotide may include other appended groups such as peptides (e.g., for targeting host cell
20 receptors), or agents facilitating transport across the cell membrane (see, e.g., Letsinger et al., 1989, Proc. Natl. Acad. Sci. U.S.A. 86:6553-6556; Lemaitre et al., 1987, Proc. Natl. Acad. Sci. 84:648-652; PCT Publication No. WO 88/09810, published December 15, 1988) or the blood-brain barrier (see, e.g., PCT Publication No. WO 89/10134, published April 25, 1988), hybridization-triggered cleavage agents
25 (See, e.g., Krol et al., 1988, BioTechniques 6:958-976), or intercalating agents (See, e.g., Zon, 1988, Pharm. Res. 5:539-549). To this end, the oligonucleotide may be conjugated to another molecule, e.g., a peptide, hybridization triggered cross-linking agent, transport agent, hybridization-triggered cleavage agent, etc.

The antisense oligonucleotide may comprise at least one modified base moiety
30 which is selected from the group including but not limited to 5-fluorouracil, 5-bromouracil, 5-chlorouracil, 5-iodouracil, hypoxanthine, xantine, 4-acetylcytosine, 5-(carboxyhydroxytriethyl) uracil, 5-carboxymethylaminomethyl-2-thiouridine, 5-

carboxymethylaminomethyluracil, dihydrouracil, beta-D-galactosylqueosine, inosine, N6-isopentenyladenine, 1-methylguanine, 1-methylinosine, 2,2-dimethylguanine, 2-methyladenine, 2-methylguanine, 3-methylcytosine, 5-methylcytosine, N6-adenine, 7-methylguanine, 5-methylaminomethyluracil, 5-methoxyaminomethyl-2-thiouracil, 5 beta-D-mannosylqueosine, 5'-methoxycarboxymethyluracil, 5-methoxyuracil, 2-methylthio-N6-isopentenyladenine, uracil-5-oxyacetic acid (v), wybutoxosine, pseudouracil, queosine, 2-thiocytosine, 5-methyl-2-thiouracil, 2-thiouracil, 4-thiouracil, 5-methyluracil, uracil-5-oxyacetic acid methylester, uracil-5-oxyacetic acid (v), 5-methyl-2-thiouracil, 3-(3-amino-3-N-2-carboxypropyl) uracil, (acp3)w, and 2,6-diaminopurine.

The antisense oligonucleotide may also comprise at least one modified sugar moiety selected from the group including but not limited to arabinose, 2-fluoroarabinose, xylulose, and hexose.

The antisense oligonucleotide can also contain a neutral peptide-like backbone. Such molecules are termed peptide nucleic acid (PNA)-oligomers and are described, e.g., in Perry-O'Keefe et al. (1996) Proc. Natl. Acad. Sci. U.S.A. 93:14670 and in Eglom *et al.* (1993) Nature 365:566. One advantage of PNA oligomers is their capability to bind to complementary DNA essentially independently from the ionic strength of the medium due to the neutral backbone of the DNA. In yet another embodiment, the antisense oligonucleotide comprises at least one modified phosphate backbone selected from the group consisting of a phosphorothioate, a phosphorodithioate, a phosphoramidothioate, a phosphoramidate, a phosphordiamidate, a methylphosphonate, an alkyl phosphotriester, and a formacetal or analog thereof.

In yet a further embodiment, the antisense oligonucleotide is an α -anomeric oligonucleotide. An α -anomeric oligonucleotide forms specific double-stranded hybrids with complementary RNA in which, contrary to the usual β -units, the strands run parallel to each other (Gautier et al., 1987, Nucl. Acids Res. 15:6625-6641). The oligonucleotide is a 2'-O-methylribonucleotide (Inoue et al., 1987, Nucl. Acids Res. 15:6131-12148), or a chimeric RNA-DNA analogue (Inoue et al., 1987, FEBS Lett. 215:327-330).

Oligonucleotides of the invention may be synthesized by standard methods known in the art, e.g., by use of an automated DNA synthesizer (such as are commercially available from Biosearch, Applied Biosystems, etc.). As examples, phosphorothioate oligonucleotides may be synthesized by the method of Stein et al. (1988, Nucl. Acids Res. 16:3209), methylphosphonate oligonucleotides can be prepared by use of controlled pore glass polymer supports (Sarin et al., 1988, Proc. Natl. Acad. Sci. U.S.A. 85:7448-7451), etc.

While antisense nucleotides complementary to a coding region sequence can be used, those complementary to the transcribed untranslated region and to the region comprising the initiating methionine are most preferred.

The antisense molecules can be delivered to cells which express the target nucleic acid *in vivo*. A number of methods have been developed for delivering antisense DNA or RNA to cells; e.g., antisense molecules can be injected directly into the tissue site, or modified antisense molecules, designed to target the desired cells (e.g., antisense linked to peptides or antibodies that specifically bind receptors or antigens expressed on the target cell surface) can be administered systemically.

However, it is often difficult to achieve intracellular concentrations of the antisense sufficient to suppress translation on endogenous mRNAs. Therefore, a preferred approach utilizes a recombinant DNA construct in which the antisense oligonucleotide is placed under the control of a strong pol III or pol II promoter. The use of such a construct to transfect target cells in the patient will result in the transcription of sufficient amounts of single stranded RNAs that will form complementary base pairs with the endogenous transcripts and thereby prevent translation of the target mRNA. For example, a vector can be introduced *in vivo* such that it is taken up by a cell and directs the transcription of an antisense RNA. Such a vector can remain episomal or become chromosomally integrated, as long as it can be transcribed to produce the desired antisense RNA. Such vectors can be constructed by recombinant DNA technology methods standard in the art. Vectors can be plasmid, viral, or others known in the art for replication and expression in mammalian cells. Expression of the sequence encoding the antisense RNA can be by any promoter known in the art to act in mammalian, preferably human cells. Such promoters can be inducible or constitutive. Such promoters include but are not limited to: the SV40

early promoter region (Bernoist and Chambon, 1981, Nature 290:304-310), the promoter contained in the 3' long terminal repeat of Rous sarcoma virus (Yamamoto *et al.*, 1980, Cell 22:787-797), the herpes thymidine kinase promoter (Wagner *et al.*, 1981, Proc. Natl. Acad. Sci. U.S.A. 78:1441-1445), the regulatory sequences of the metallothionein gene (Brinster *et al.*, 1982, Nature 296:39-42), etc. Any type of plasmid, cosmid, YAC or viral vector can be used to prepare the recombinant DNA construct which can be introduced directly into the tissue site; e.g., the choroid plexus or hypothalamus. Alternatively, viral vectors can be used which selectively infect the desired tissue (e.g., for brain, herpesvirus vectors may be used), in which case administration may be accomplished by another route (e.g., systemically).

In another aspect of the invention, ribozyme molecules designed to catalytically cleave target mRNA transcripts can be used to prevent translation of target mRNA and expression of a target protein (See, e.g., PCT International Publication WO90/11364, published October 4, 1990; Sarver *et al.*, 1990, Science 247:1222-1225 and U.S. Patent No. 5,093,246). While ribozymes that cleave mRNA at site specific recognition sequences can be used to destroy target mRNAs, the use of hammerhead ribozymes is preferred. Hammerhead ribozymes cleave mRNAs at locations dictated by flanking regions that form complementary base pairs with the target mRNA. The sole requirement is that the target mRNA have the following sequence of two bases: 5'-UG-3'. The construction and production of hammerhead ribozymes is well known in the art and is described more fully in Haseloff and Gerlach, 1988, Nature, 334:585-591. Preferably the ribozyme is engineered so that the cleavage recognition site is located near the 5' end of the target mRNA; i.e., to increase efficiency and minimize the intracellular accumulation of non-functional mRNA transcripts.

The ribozymes of the present invention also include RNA endoribonucleases (hereinafter "Cech-type ribozymes") such as the one which occurs naturally in *Tetrahymena thermophila* (known as the IVS, or L-19 IVS RNA) and which has been extensively described by Thomas Cech and collaborators (Zaug, *et al.*, 1984, Science, 224:574-578; Zaug and Cech, 1986, Science, 231:470-475; Zaug, *et al.*, 1986, Nature, 324:429-433; published International patent application No. WO88/04300 by University Patents Inc.; Been and Cech, 1986, Cell, 47:207-216). The Cech-type

ribozymes have an eight base pair active site which hybridizes to a target RNA sequence whereafter cleavage of the target RNA takes place. The invention encompasses those Cech-type ribozymes which target eight base-pair active site sequences that are present in a target gene.

5 As in the antisense approach, the ribozymes can be composed of modified oligonucleotides (e.g., for improved stability, targeting, etc.) and should be delivered to cells which express the target gene *in vivo*. A preferred method of delivery involves using a DNA construct "encoding" the ribozyme under the control of a strong constitutive pol III or pol II promoter, so that transfected cells will produce
10 sufficient quantities of the ribozyme to destroy endogenous messages and inhibit translation. Because ribozymes, unlike antisense molecules, are catalytic, a lower intracellular concentration is required for efficiency.

 Antisense RNA, DNA, and ribozyme molecules of the invention may be prepared by any method known in the art for the synthesis of DNA and RNA
15 molecules. These include techniques for chemically synthesizing oligodeoxyribonucleotides and oligoribonucleotides well known in the art such as for example solid phase phosphoramidite chemical synthesis. Alternatively, RNA molecules may be generated by *in vitro* and *in vivo* transcription of DNA sequences encoding the antisense RNA molecule. Such DNA sequences may be incorporated
20 into a wide variety of vectors which incorporate suitable RNA polymerase promoters such as the T7 or SP6 polymerase promoters. Alternatively, antisense cDNA constructs that synthesize antisense RNA constitutively or inducibly, depending on the promoter used, can be introduced stably into cell lines.

 Moreover, various well-known modifications to nucleic acid molecules may
25 be introduced as a means of increasing intracellular stability and half-life. Possible modifications include but are not limited to the addition of flanking sequences of ribonucleotides or deoxyribonucleotides to the 5' and/or 3' ends of the molecule or the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages within the oligodeoxyribonucleotide backbone.

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VIII. Polypeptides of the Present Invention

The present invention makes available isolated polypeptides which are isolated from, or otherwise substantially free of other cellular proteins, especially other signal transduction factors and/or transcription factors which may normally be associated with the polypeptide. Subject polypeptides of the present invention include

5 polypeptides encoded by the nucleic acids of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, or polypeptides encoded by genes of which a sequence in SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, is a fragment. Polypeptides of the present invention

10 include those proteins which are differentially regulated in tumor cells, especially colon cancer-derived cell lines (relative to normal cells, e.g., normal colon tissue and non-colon tissue). In preferred embodiments, the polypeptides are upregulated in tumor cells, especially colon cancer cancer-derived cell lines. In other embodiments, the polypeptides are downregulated in tumor cells, especially colon cancer-derived

15 cell lines. Proteins which are upregulated, such as oncogenes, or downregulated, such as tumor suppressors, in aberrantly proliferating cells may be targets for diagnostic or therapeutic techniques. For example, upregulation of the *cdc2* gene induces mitosis. Overexpression of the *myt1* gene, a mitotic deactivator, negatively regulates the activity of *cdc2*. Aberrant proliferation may thus be induced either by upregulating

20 *cdc2* or by downregulating *myt1*

The term "substantially free of other cellular proteins" (also referred to herein as "contaminating proteins") or "substantially pure or purified preparations" are defined as encompassing preparations of polypeptides having less than about 20% (by dry weight) contaminating protein, and preferably having less than about 5%

25 contaminating protein. Functional forms of the subject polypeptides can be prepared, for the first time, as purified preparations by using a cloned nucleic acid as described herein. Full length proteins or fragments corresponding to one or more particular motifs and/or domains or to arbitrary sizes, for example, at least about 5, 10, 25, 50, 75, or 100 amino acids in length are within the scope of the present invention.

30 For example, isolated polypeptides can be encoded by all or a portion of a nucleic acid sequence shown in any of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary

thereto. Isolated peptidyl portions of proteins can be obtained by screening peptides recombinantly produced from the corresponding fragment of the nucleic acid encoding such peptides. In addition, fragments can be chemically synthesized using techniques known in the art such as conventional Merrifield solid phase f-Moc or t-Boc chemistry. For example, a polypeptide of the present invention may be arbitrarily divided into fragments of desired length with no overlap of the fragments, or preferably divided into overlapping fragments of a desired length. The fragments can be produced (recombinantly or by chemical synthesis) and tested to identify those peptidyl fragments which can function as either agonists or antagonists of a wild-type (e.g., "authentic") protein.

Another aspect of the present invention concerns recombinant forms of the subject proteins. Recombinant polypeptides preferred by the present invention, in addition to native proteins as described above are encoded by a nucleic acid, which is at least 60%, more preferably at least 80%, and more preferably 85%, and more preferably 90%, and more preferably 95% identical to an amino acid sequence encoded by SEQ ID NOs. 1-850. Polypeptides which are encoded by a nucleic acid that is at least about 98-99% identical with the sequence of SEQ ID Nos. 1-850 are also within the scope of the invention. Also included in the present invention are peptide fragments comprising at least a portion of such a protein.

In a preferred embodiment, a polypeptide of the present invention is a mammalian polypeptide and even more preferably a human polypeptide. In particularly preferred embodiment, the polypeptide retains wild-type bioactivity. It will be understood that certain post-translational modifications, e.g., phosphorylation and the like, can increase the apparent molecular weight of the polypeptide relative to the unmodified polypeptide chain.

The present invention further pertains to recombinant forms of one of the subject polypeptides. Such recombinant polypeptides preferably are capable of functioning in one of either role of an agonist or antagonist of at least one biological activity of a wild-type ("authentic") polypeptide of the appended sequence listing. The term "evolutionarily related to", with respect to amino acid sequences of proteins, refers to both polypeptides having amino acid sequences which have arisen naturally,

and also to mutational variants of human polypeptides which are derived, for example, by combinatorial mutagenesis.

In general, polypeptides referred to herein as having an activity (e.g., are "bioactive") of a protein are defined as polypeptides which include an amino acid sequence encoded by all or a portion of the nucleic acid sequences shown in one of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, and which mimic or antagonize all or a portion of the biological/biochemical activities of a naturally occurring protein. According to the present invention, a polypeptide has biological activity if it is a specific agonist or antagonist of a naturally occurring form of a protein.

Assays for determining whether a compound, e.g., a protein or variant thereof, has one or more of the above biological activities are well known in the art. In certain embodiments, the polypeptides of the present invention have activities such as those outlined above.

In another embodiment, the coding sequences for the polypeptide can be incorporated as a part of a fusion gene including a nucleotide sequence encoding a different polypeptide. This type of expression system can be useful under conditions where it is desirable to produce an immunogenic fragment of a polypeptide (see, for example, EP Publication No: 0259149; and Evans *et al.* (1989) *Nature* 339:385; Huang *et al.* (1988) *J. Virol.* 62:3855; and Schlienger *et al.* (1992) *J. Virol.* 66:2). In addition to utilizing fusion proteins to enhance immunogenicity, it is widely appreciated that fusion proteins can also facilitate the expression of proteins, and, accordingly, can be used in the expression of the polypeptides of the present invention (see, for example, *Current Protocols in Molecular Biology*, eds. Ausubel *et al.* (N.Y.: John Wiley & Sons, 1991)). In another embodiment, a fusion gene coding for a purification leader sequence, such as a poly-(His)/enterokinase cleavage site sequence at the N-terminus of the desired portion of the recombinant protein, can allow purification of the expressed fusion protein by affinity chromatography using a Ni²⁺ metal resin. The purification leader sequence can then be subsequently removed by treatment with enterokinase to provide the purified protein (e.g., see Hochuli *et al.* (1987) *J. Chromatography* 411:177; and Janknecht *et al.* *PNAS* 88:8972).

Techniques for making fusion genes are known to those skilled in the art. Essentially, the joining of various DNA fragments coding for different polypeptide sequences is performed in accordance with conventional techniques, employing blunt-ended or stagger-ended termini for ligation, restriction enzyme digestion to provide
5 for appropriate termini, filling-in of cohesive ends as appropriate, alkaline phosphatase treatment to avoid undesirable joining, and enzymatic ligation. In another embodiment, the fusion gene can be synthesized by conventional techniques including automated DNA synthesizers. Alternatively, PCR amplification of nucleic acid
10 fragments can be carried out using anchor primers which give rise to complementary overhangs between two consecutive nucleic acid fragments which can subsequently be annealed to generate a chimeric nucleic acid sequence (see, for example, Current Protocols in Molecular Biology, eds. Ausubel et al. John Wiley & Sons: 1992).

The present invention further pertains to methods of producing the subject polypeptides. For example, a host cell transfected with a nucleic acid vector directing
15 expression of a nucleotide sequence encoding the subject polypeptides can be cultured under appropriate conditions to allow expression of the peptide to occur. Suitable media for cell culture are well known in the art. The recombinant polypeptide can be isolated from cell culture medium, host cells, or both using techniques known in the art for purifying proteins including ion-exchange chromatography, gel filtration
20 chromatography, ultrafiltration, electrophoresis, and immunoaffinity purification with antibodies specific for such peptide. In a preferred embodiment, the recombinant polypeptide is a fusion protein containing a domain which facilitates its purification, such as GST fusion protein.

Moreover, it will be generally appreciated that, under certain circumstances, it
25 may be advantageous to provide homologs of one of the subject polypeptides which function in a limited capacity as one of either an agonist (mimetic) or an antagonist, in order to promote or inhibit only a subset of the biological activities of the naturally occurring form of the protein. Thus, specific biological effects can be elicited by treatment with a homolog of limited function, and with fewer side effects relative to
30 treatment with agonists or antagonists which are directed to all of the biological activities of naturally occurring forms of subject proteins.

Homologs of each of the subject polypeptide can be generated by mutagenesis, such as by discrete point mutation(s), or by truncation. For instance, mutation can give rise to homologs which retain substantially the same, or merely a subset, of the biological activity of the polypeptide from which it was derived. Alternatively, 5 antagonistic forms of the polypeptide can be generated which are able to inhibit the function of the naturally occurring form of the protein, such as by competitively binding to a receptor.

The recombinant polypeptides of the present invention also include homologs of the wild-type proteins, such as versions of those proteins which are resistant to 10 proteolytic cleavage, for example, due to mutations which alter ubiquitination or other enzymatic targeting associated with the protein.

Polypeptides may also be chemically modified to create derivatives by forming covalent or aggregate conjugates with other chemical moieties, such as glycosyl groups, lipids, phosphate, acetyl groups and the like. Covalent derivatives of 15 proteins can be prepared by linking the chemical moieties to functional groups on amino acid sidechains of the protein or at the N-terminus or at the C-terminus of the polypeptide.

Modification of the structure of the subject polypeptides can be for such purposes as enhancing therapeutic or prophylactic efficacy, stability (e.g., *ex vivo* 20 shelf life and resistance to proteolytic degradation), or post-translational modifications (e.g., to alter phosphorylation pattern of protein). Such modified peptides, when designed to retain at least one activity of the naturally occurring form of the protein, or to produce specific antagonists thereof, are considered functional equivalents of the polypeptides described in more detail herein. Such modified peptides can be 25 produced, for instance, by amino acid substitution, deletion, or addition. The substitutional variant may be a substituted conserved amino acid or a substituted non-conserved amino acid.

For example, it is reasonable to expect that an isolated replacement of a leucine with an isoleucine or valine, an aspartate with a glutamate, a threonine with a 30 serine, or a similar replacement of an amino acid with a structurally related amino acid (i.e., isosteric and/or isoelectric mutations) will not have a major effect on the biological activity of the resulting molecule. Conservative replacements are those that

take place within a family of amino acids that are related in their side chains.

Genetically encoded amino acids can be divided into four families: (1) acidic = aspartate, glutamate; (2) basic = lysine, arginine, histidine; (3) nonpolar = alanine, valine, leucine, isoleucine, proline, phenylalanine, methionine, tryptophan; and (4)

5 uncharged polar = glycine, asparagine, glutamine, cysteine, serine, threonine, tyrosine.

In similar fashion, the amino acid repertoire can be grouped as (1) acidic = aspartate, glutamate; (2) basic = lysine, arginine histidine, (3) aliphatic = glycine, alanine, valine, leucine, isoleucine, serine, threonine, with serine and threonine optionally be

grouped separately as aliphatic-hydroxyl; (4) aromatic = phenylalanine, tyrosine, tryptophan; (5) amide = asparagine, glutamine; and (6) sulfur -containing = cysteine and methionine. (see, for example, Biochemistry, 2nd ed., Ed. by L. Stryer, WH
10 Freeman and Co.: 1981). Whether a change in the amino acid sequence of a peptide results in a functional homolog (e.g., functional in the sense that the resulting polypeptide mimics or antagonizes the wild-type form) can be readily determined by
15 assessing the ability of the variant peptide to produce a response in cells in a fashion similar to the wild-type protein, or competitively inhibit such a response.

Polypeptides in which more than one replacement has taken place can readily be tested in the same manner. The variant may be designed so as to retain biological activity of a particular region of the protein. In a non-limiting example, Osawa et al.,
20 1994, Biochemistry and Molecular International 34:1003-1009, discusses the actin binding region of a protein from several different species. The actin binding regions of the these species are considered homologous based on the fact that they have amino acids that fall within "homologous residue groups." Homologous residues are judged according to the following groups (using single letter amino acid designations):

25 STAG; ILVMF; HRK; DEQN; and FYW. For example, an S, a T, an A or a G can be in a position and the function (in this case actin binding) is retained.

Additional guidance on amino acid substitution is available from studies of protein evolution. Go et al., 1980, Int. J. Peptide Protein Res. 15:211-224, classified amino acid residue sites as interior or exterior depending on their accessibility. More
30 frequent substitution on exterior sites was confirmed to be general in eight sets of homologous protein families regardless of their biological functions and the presence or absence of a prosthetic group. Virtually all types of amino acid residues had higher

mutabilities on the exterior than in the interior. No correlation between mutability and polarity was observed of amino acid residues in the interior and exterior, respectively. Amino acid residues were classified into one of three groups depending on their polarity: polar (Arg, Lys, His, Gln, Asn, Asp, and Glu); weak polar (Ala, Pro, Gly, Thr, and Ser), and nonpolar (Cys, Val, Met, Ile, Leu, Phe, Tyr, and Trp). Amino acid replacements during protein evolution were very conservative: 88% and 76% of them in the interior or exterior, respectively, were within the same group of the three. Inter-group replacements are such that weak polar residues are replaced more often by nonpolar residues in the interior and more often by polar residues on the exterior.

- 10 Querol *et al.*, 1996, *Prot. Eng.* 9:265-271, provides general rules for amino acid substitutions to enhance protein thermostability. New glycosylation sites can be introduced as discussed in Olsen and Thomsen, 1991, *J. Gen. Microbiol.* 137:579-585. An additional disulfide bridge can be introduced, as discussed by Perry and Wetzel, 1984, *Science* 226:555-557; Pantoliano *et al.*, 1987, *Biochemistry* 26:2077-2082;
- 15 Matsumura *et al.*, 1989, *Nature* 342:291-293; Nishikawa *et al.*, 1990, *Protein Eng.* 3:443-448; Takagi *et al.*, 1990, *J. Biol. Chem.* 265:6874-6878; Clarke *et al.*, 1993, *Biochemistry* 32:4322-4329; and Wakarchuk *et al.*, 1994, *Protein Eng.* 7:1379-1386.

- An additional metal binding site can be introduced, according to Toma *et al.*, 1991, *Biochemistry* 30:97-106, and Haezebrouck *et al.*, 1993, *Protein Eng.* 6:643-649.
- 20 Substitutions with prolines in loops can be made according to Masul *et al.*, 1994, *Appl. Env. Microbiol.* 60:3579-3584; and Hardy *et al.*, *FEBS Lett.* 317:89-92.

- Cysteine-depleted muteins are considered variants within the scope of the invention. These variants can be constructed according to methods disclosed in U.S. Patent No. 4,959,314, which discloses how to substitute other amino acids for cysteines, and how to determine biological activity and effect of the substitution.
- 25 Such methods are suitable for proteins according to this invention that have cysteine residues suitable for such substitutions, for example to eliminate disulfide bond formation.

- To learn the identity and function of the gene that correlates with an nucleic acid, the nucleic acids or corresponding amino acid sequences can be screened against profiles of protein families. Such profiles focus on common structural motifs among
- 30

proteins of each family. Publicly available profiles are described above. Additional or alternative profiles are described below.

In comparing a new nucleic acid with known sequences, several alignment tools are available. Examples include PileUp, which creates a multiple sequence alignment, and is described in Feng *et al.*, *J. Mol. Evol.* (1987) 25:351-360. Another method, GAP, uses the alignment method of Needleman *et al.*, *J. Mol. Biol.* (1970) 48:443-453. GAP is best suited for global alignment of sequences. A third method, BestFit, functions by inserting gaps to maximize the number of matches using the local homology algorithm of Smith and Waterman, *Adv. Appl. Math.* (1981) 2:482-489.

Examples of such profiles are described below.

Chemokines

Chemokines are a family of proteins that have been implicated in lymphocyte trafficking, inflammatory diseases, angiogenesis, hematopoiesis, and viral infection. See, for example, Rollins, *Blood* (1997) 90(3):909-928, and Wells *et al.*, *J. Leuk. Biol.* (1997) 61:545-550. U.S. Patent No. 5,605,817 discloses DNA encoding a chemokine expressed in fetal spleen. U.S. Patent No. 5,656,724 discloses chemokine-like proteins and methods of use. U.S. Patent No. 5,602,008 discloses DNA encoding a chemokine expressed by liver.

Mutants of the encoded chemokines are polypeptides having an amino acid sequence that possesses at least one amino acid substitution, addition, or deletion as compared to native chemokines. Fragments possess the same amino acid sequence of the native chemokines; mutants may lack the amino and/or carboxyl terminal sequences. Fusions are mutants, fragments, or the native chemokines that also include amino and/or carboxyl terminal amino acid extensions.

The number or type of the amino acid changes is not critical, nor is the length or number of the amino acid deletions, or amino acid extensions that are incorporated in the chemokines as compared to the native chemokine amino acid sequences. A polynucleotide encoding one of these variant polypeptides will retain at least about 80% amino acid identity with at least one known chemokine. Preferably, these polypeptides will retain at least about 85% amino acid sequence identity, more

preferably, at least about 90%; even more preferably, at least about 95%. In addition, the variants will exhibit at least 80%; preferably about 90%; more preferably about 95% of at least one activity exhibited by a native chemokine. Chemokine activity includes immunological, biological, receptor binding, and signal transduction
 5 functions of the native chemokine.

Chemotaxis. Assays for chemotaxis relating to neutrophils are described in Walz *et al.*, *Biochem. Biophys. Res. Commun.* (1987) 149:755, Yoshimura *et al.*, *Proc. Natl. Acad. Sci. (USA)* (1987) 84:9233, and Schroder *et al.*, *J. Immunol.* (1987) 139:3474; to lymphocytes, Larsen *et al.*, *Science* (1989) 243:1464, Carr *et al.*, *Proc.*
 10 *Natl. Acad. Sci. (USA)* (1994) 91:3652; to tumor-infiltrating lymphocytes, Liao *et al.*, *J. Exp. Med.* (1995) 182:1301; to hemopoietic progenitors, Aiuti *et al.*, *J. Exp. Med.* (1997) 185:111; to monocytes, Valente *et al.*, *Biochem.* (1988) 27:4162; and to natural killer cells, Loetscher *et al.*, *J. Immunol.* (1996) 156:322, and Allavena *et al.*, *Eur. J. Immunol.* (1994) 24:3233.

15 Assays for determining the biological activity of attracting eosinophils are described in Dahinden *et al.*, *J. Exp. Med.* (1994) 179:751, Weber *et al.*, *J. Immunol.* (1995) 154:4166, and Noso *et al.*, *Biochem. Biophys. Res. Commun.* (1994) 200:1470; for attracting dendritic cells, Sozzani *et al.*, *J. Immunol.* (1995) 155:3292; for attracting basophils, in Dahinden *et al.*, *J. Exp. Med.* (1994) 179:751, Alam *et al.*, *J.*
 20 *Immunol.* (1994) 152:1298, Alam *et al.*, *J. Exp. Med.* (1992) 176:781; and for activating neutrophils, Maghazaci *et al.*, *Eur. J. Immunol.* (1996) 26:315, and Taub *et al.*, *J. Immunol.* (1995) 155:3877. Native chemokines can act as mitogens for fibroblasts, assayed as described in Mullenbach *et al.*, *J. Biol. Chem.* (1986) 261:719.

Receptor Binding. Native chemokines exhibit binding activity with a number
 25 of receptors. Description of such receptors and assays to detect binding are described in, for example, Murphy *et al.*, *Science* (1991) 253:1280; Combadiere *et al.*, *J. Biol. Chem.* (1995) 270:29671; Daugherty *et al.*, *J. Exp. Med.* (1996) 183:2349; Samson *et al.*, *Biochem.* (1996) 35:3362; Raport *et al.*, *J. Biol. Chem.* (1996) 271:17161; Combadiere *et al.*, *J. Leukoc. Biol.* (1996) 60:147; Baba *et al.*, *J. Biol. Chem.* (1997)
 30 23:14893; Yosida *et al.*, *J. Biol. Chem.* (1997) 272:13803; Arvanitakis *et al.*, *Nature* (1997) 385:347, and many other assays are known in the art.

- Kinase Activation. Assays for kinase activation are described by Yen *et al.*, *J. Leukoc. Biol.* (1997) 61:529; Dubois *et al.*, *J. Immunol.* (1996) 156:1356; Turner *et al.*, *J. Immunol.* (1995) 155:2437. Assays for inhibition of angiogenesis or cell proliferation are described in Maione *et al.*, *Science* (1990) 247:77.
- 5 Glycosaminoglycan production can be induced by native chemokines, assayed as described in Castor *et al.*, *Proc. Natl. Acad. Sci. (USA)* (1983) 80:765. Chemokine-mediated histamine release from basophils is assayed as described in Dahinden *et al.*, *J. Exp. Med.* (1989) 170:1787; and White *et al.*, *Immunol. Lett.* (1989) 22:151. Heparin binding is described in Luster *et al.*, *J. Exp. Med.* (1995) 182:219.
- 10 Dimerization Activity. Chemokines can possess dimerization activity, which can be assayed according to Burrows *et al.*, *Biochem.* (1994) 33:12741; and Zhang *et al.*, *Mol. Cell. Biol.* (1995) 15:4851. Native chemokines can play a role in the inflammatory response of viruses. This activity can be assayed as described in Bleul *et al.*, *Nature* (1996) 382:829; and Oberlin *et al.*, *Nature* (1996) 382:833. Exocytosis
- 15 of monocytes can be promoted by native chemokines. The assay for such activity is described in Ugucioni *et al.*, *Eur. J. Immunol.* (1995) 25:64. Native chemokines also can inhibit hemapoietic stem cell proliferation. The method for testing for such activity is reported in Graham *et al.*, *Nature* (1990) 344:442.
- 20 Death Domain Proteins
- Several protein families contain death domain motifs (Feinstein and Kimchi, *TIBS Letters* (1995) 20:242-244). Some death domain-containing proteins are implicated in cytotoxic intracellular signaling (Cleveland and Ihle, *Cell* (1995) 81:479-482, Pan *et al.*, *Science* (1997) 276:111-113, Duan and Dixit, *Nature* (1997)
- 25 385:86-89, and Chinnaiyan *et al.*, *Science* (1996) 274:990-992). U.S. Patent No. 5,563,039 describes a protein homologous to TRADD (Tumor Necrosis Factor Receptor-1 Associated Death Domain containing protein), and modifications of the active domain of TRADD that retain the functional characteristics of the protein, as well as apoptosis assays for testing the function of such death domain containing
- 30 proteins. U.S. Patent No. 5,658,883 discloses biologically active TGF-B1 peptides. U.S. Patent No. 5,674,734 discloses protein RIP which contains a C-terminal death domain and an N-terminal kinase domain.

Leukemia Inhibitory Factor (LIF)

An LIF profile is constructed from sequences of leukemia inhibitor factor, CT-1 (cardiotrophin-1), CNTF (ciliary neurotrophic factor), OSM (oncostatin M), and IL-6 (interleukin-6). This profile encompasses a family of secreted cytokines that have pleiotropic effects on many cell types including hepatocytes, osteoclasts, neuronal cells and cardiac myocytes, and can be used to detect additional genes encoding such proteins. These molecules are all structurally related and share a common co-receptor gp130 which mediates intracellular signal transduction by cytoplasmic tyrosine kinases such as src.

Novel proteins related to this family are also likely to be secreted, to activate gp130 and to function in the development of a variety of cell types. Thus new members of this family would be candidates to be developed as growth or survival factors for the cell types that they stimulate. For more details on this family of cytokines, see Pennica *et al*, *Cytokine and Growth Factor Reviews* (1996) 7:81-91. U.S. Patent No. 5,420,247 discloses LIF receptor and fusion proteins. U.S. Patent No. 5,443,825 discloses human LIF.

Angiopoietin

Angiopoietin-1 is a secreted ligand of the TIE-2 tyrosine kinase; it functions as an angiogenic factor critical for normal vascular development. Angiopoietin-2 is a natural antagonist of angiopoietin-1 and thus functions as an anti-angiogenic factor. These two proteins are structurally similar and activate the same receptor. (Folkman and D'Amore, *Cell* (1996) 87:1153-1155, and Davis *et al.*, *Cell* (1996) 87:1161-1169.)

The angiopoietin molecules are composed of two domains, a coiled-coil region and a region related to fibrinogen. The fibrinogen domain is found in many molecules including ficolin and tesascin, and is well defined structurally with many members.

Receptor Protein-Tyrosine Kinases

Receptor Protein-Tyrosine Kinases or RPTKs are described in Lindberg, *Annu. Rev. Cell Biol.* (1994) 10:251-337.

Growth Factors: Epidermal Growth Factor (EGF) and Fibroblast Growth Factor (FGF)

For a discussion of growth factor superfamilies, see Growth Factors: A Practical Approach, Appendix A1 (Ed. McKay and Leigh, Oxford University Press, NY, 1993) pp. 237-243.

The alignments (pretty box) for EGF and FGF are shown in Figures 1 and 2, respectively. U.S. Patent No. 4,444,760 discloses acidic brain fibroblast growth factor, which is active in the promotion of cell division and wound healing. U.S. Patent No. 5,439,818 discloses DNA encoding human recombinant basic fibroblast growth factor, which is active in wound healing. U.S. Patent No. 5,604,293 discloses recombinant human basic fibroblast growth factor, which is useful for wound healing. U.S. Patent No. 5,410,832 discloses brain-derived and recombinant acidic fibroblast growth factor, which act as mitogens for mesoderm and neuroectoderm-derived cells in culture, and promote wound healing in soft tissue, cartilaginous tissue and musculo-skeletal tissue. U.S. Patent No. 5,387,673 discloses biologically active fragments of FGF that retain activity.

Proteins of the TNF Family

A profile derived from the TNF family is created by aligning sequences of the following TNF family members: nerve growth factor (NGF), lymphotoxin, Fas ligand, tumor necrosis factor (TNF), CD40 ligand, TRAIL, ox40 ligand, 4-1BB ligand, CD27 ligand, and CD30 ligand. The profile is designed to identify sequences of proteins that constitute new members or homologues of this family of proteins.

U.S. Patent No. 5,606,023 discloses mutant TNF proteins; U.S. Patent No. 5,597,899 and U.S. Patent No. 5,486,463 disclose TNF muteins; and U.S. Patent No. 5,652,353 discloses DNA encoding TNF α muteins.

Members of the TNF family of proteins have been shown in vitro to multimerize, as described in Burrows *et al.*, *Biochem.* (1994) 33:12741 and Zhang *et al.*, *Mol. Cell. Biol.* (1995) 15:4851 and bind receptors as described in Browning *et al.*, *J. Immunol.* (1994) 147:1230, Androlewicz *et al.*, *J. Biol. Chem.* (1992) 267:2542, and Crowe *et al.*, *Science* (1994) 264:707.

In vivo, TNFs proteolytically cleave a target protein as described in Kriegel *et al.*, *Cell* (1988) 53:45 and Mohler *et al.*, *Nature* (1994) 370:218 and demonstrate cell proliferation and differentiation activity. T-cell or thymocyte proliferation is assayed as described in Armitage *et al.*, *Eur. J. Immunol.* (1992) 22:447; Current Protocols in Immunology, ed. J.E. Coligan *et al.*, 3.1-3.19; Takai *et al.*, *J. Immunol.* (1986) 137:3494-3500, Bertagnoli *et al.*, *J. Immunol.* (1990) 145:1706-1712, Bertagnoli *et al.*, *J. Immunol.* (1991) 133:327-340, Bertagnoli *et al.*, *J. Immunol.* (1992) 149:3778-3783, and Bowman *et al.*, *J. Immunol.* (1994) 152:1756-1761. B cell proliferation and Ig secretion are assayed as described in Maliszewski, *J. Immunol.* (1990) 144:3028-3033, and Assays for B Cell Function: In vitro antibody production, Mond and Brunswick, Current Protocols in Immunol., Coligan Ed vol 1 pp 3.8.1-3.8.16, John Wiley and Sons, Toronto 1994, Kehrl *et al.*, *Science* (1987) 238:1144 and Boussiotis *et al.*, *PNAS USA* (1994) 91:7007.

Other in vivo activities include upregulation of cell surface antigens, upregulation of costimulatory molecules, and cellular aggregation/adhesion as described in Barrett *et al.*, *J. Immunol.* (1991) 146:1722; Bjorck *et al.*, *Eur. J. Immunol.* (1993) 23:1771; Clark *et al.*, *Annu Rev. Immunol.* (1991) 9:97; Ranheim *et al.*, *J. Exp. Med.* (1994) 177:925; Yellin, *J. Immunol.* (1994) 153:666; and Gruss *et al.*, *Blood* (1994) 84:2305.

Proliferation and differentiation of hematopoietic and lymphopoietic cells has also been shown in vivo for TNFs, using assays for embryonic differentiation and hematopoiesis as described in Johansson *et al.*, *Cellular Biology* (1995) 15:141-151, Keller *et al.*, *Mol. Cell. Biol.* (1993) 13:473-486, McClanahan *et al.*, *Blood* (1993) 81:2903-2915 and using assays to detect stem cell survival and differentiation as described in Culture of Hematopoietic Cells, Freshney *et al.* eds, pp 1-21, 23-29, 139-162, 163-179, and 265-268, Wiley-Liss, Inc., New York, NY, 1994, and Hirajama *et al.*, *PNAS USA* (1992) 89:5907-5911.

In vivo activities of TNFs also include lymphocyte survival and apoptosis, assayed as described in Darzynkewicz *et al.*, *Cytometry* (1992) 13:795-808; Gorczyca *et al.*, *Leukemia* (1993) 7:659-670; Itoh *et al.*, *Cell* (1991) 66:233-243; Zacharduk, *J. Immunol.* (1990) 145:4037-4045; Zamai *et al.*, *Cytometry* (1993) 14:891-897; and Gorczyca *et al.*, *Int'l J. Oncol.* (1992) 1:639-648.

Some members of the TNF family are cleaved from the cell surface; others remain membrane bound. The three-dimensional structure of TNF is discussed in Sprang and Eck, Tumor Necrosis Factors; *supra*.

5 TNF proteins include a transmembrane domain. The protein is cleaved into a shorter soluble version, as described in Kriegler *et al.*, *Cell* (1988) 53:45-53, Perez *et al.*, *Cell* (1990) 63:251-258, and Shaw *et al.*, *Cell* (1986) 46:659-667. The transmembrane domain is between amino acid 46 and 77 and the cytoplasmic domain is between position 1 and 45 on the human form of TNF α . The 3-dimensional motifs of TNF include a sandwich of two pleated β sheets. Each sheet is composed of anti-
10 parallel α strands. α Strands facing each other on opposite sites of the sandwich are connected by short polypeptide loops, as described in Van Ostade *et al.*, *Protein Engineering* (1994) 7(1):5-22, and Sprang *et al.*, Tumor Necrosis Factors; *supra*.

Residues of the TNF family proteins that are involved in the β sheet secondary structure have been identified as described in Van Ostade *et al.*, *Protein Engineering*
15 (1994) 7(1):5-22, and Sprang *et al.*, Tumor Necrosis Factors; *supra*.

TNF receptors are disclosed in U.S. Patent No. 5,395,760. A profile derived from the TNF receptor family is created by aligning sequences of the TNF receptor family, including Apo1/Fas, TNFR I and II, death receptor3 (DR3), CD40, ox40, CD27, and CD30. Thus, the profile is designed to identify, from the nucleic acids of
20 the invention, sequences of proteins that constitute new members or homologs of this family of proteins.

Tumor necrosis factor receptors exist in two forms in humans: p55 TNFR and p75 TNFR, both of which provide intracellular signals upon binding with a ligand. The extracellular domains of these receptor proteins are cysteine rich. The receptors
25 can remain membrane bound, although some forms of the receptors are cleaved forming soluble receptors. The regulation, diagnostic, prognostic, and therapeutic value of soluble TNF receptors is discussed in Aderka, *Cytokine and Growth Factor Reviews*, (1996) 7(3):231-240.

30 PDGF Family

U.S. Patent No. 5,326,695 discloses platelet derived growth factor agonists; bioactive portions of PDGF-B are used as agonists. U.S. Patent No. 4,845,075

discloses biologically active B-chain homodimers, and also includes variants and derivatives of the PDGF-B chain. U.S. Patent No. 5,128,321 discloses PDGF analogs and methods of use. Proteins having the same bioactivity as PDGF are disclosed, including A and B chain proteins.

5

Kinase (Including MKK) Family

U.S. Patent No. 5,650,501 discloses serine/threonine kinase, associated with mitotic and meiotic cell division; the protein has a kinase domain in its N-terminal and 3 PEST regions in the C-terminus. U.S. Patent No. 5,605,825 discloses human PAK65, a serine protein kinase.

10

The foregoing discussion provides a few examples of the protein profiles that can be compared with the nucleic acids of the invention. One skilled in the art can use these and other protein profiles to identify the genes that correlate with the nucleic acids.

15

IX. Determining the Function of the Encoded Expression Products

Ribozymes, antisense constructs, dominant negative mutants, and triplex formation can be used to determine function of the expression product of an nucleic acid-related gene.

20

A. Ribozymes

Trans-cleaving catalytic RNAs (ribozymes) are RNA molecules possessing endoribonuclease activity. Ribozymes are specifically designed for a particular target, and the target message must contain a specific nucleotide sequence. They are engineered to cleave any RNA species site-specifically in the background of cellular RNA. The cleavage event renders the mRNA unstable and prevents protein expression. Importantly, ribozymes can be used to inhibit expression of a gene of unknown function for the purpose of determining its function in an in vitro or in vivo context, by detecting the phenotypic effect.

25

30

One commonly used ribozyme motif is the hammerhead, for which the substrate sequence requirements are minimal. Design of the hammerhead ribozyme is disclosed in Usman *et al.*, *Current Opin. Struct. Biol.* (1996) 6:527-533. Usman

- also discusses the therapeutic uses of ribozymes. Ribozymes can also be prepared and used as described in Long *et al.*, *FASEB J.* (1993) 7:25; Symons, *Ann. Rev. Biochem.* (1992) 61:641; Perrotta *et al.*, *Biochem.* (1992) 31:16-17; Ojwang *et al.*, *Proc. Natl. Acad. Sci. (USA)* (1992) 89:10802-10806; and U.S. Patent No. 5,254,678.
- 5 Ribozyme cleavage of HIV-I RNA is described in U.S. Patent No. 5,144,019; methods of cleaving RNA using ribozymes is described in U.S. Patent No. 5,116,742; and methods for increasing the specificity of ribozymes are described in U.S. Patent No. 5,225,337 and Koizumi *et al.*, *Nucleic Acid Res.* (1989) 17:7059-7071. Preparation and use of ribozyme fragments in a hammerhead structure are also
- 10 described by Koizumi *et al.*, *Nucleic Acids Res.* (1989) 17:7059-7071. Preparation and use of ribozyme fragments in a hairpin structure are described by Chowrira and Burke, *Nucleic Acids Res.* (1992) 20:2835. Ribozymes can also be made by rolling transcription as described in Daubendiek and Kool, *Nat. Biotechnol.* (1997) 15(3):273-277.
- 15 The hybridizing region of the ribozyme may be modified or may be prepared as a branched structure as described in Horn and Urdea, *Nucleic Acids Res.* (1989) 17:6959-67. The basic structure of the ribozymes may also be chemically altered in ways familiar to those skilled in the art, and chemically synthesized ribozymes can be administered as synthetic oligonucleotide derivatives modified by monomeric units.
- 20 In a therapeutic context, liposome mediated delivery of ribozymes improves cellular uptake, as described in Birikh *et al.*, *Eur. J. Biochem.* (1997) 245:1-16.
- Using the nucleic acid sequences of the invention and methods known in the art, ribozymes are designed to specifically bind and cut the corresponding mRNA species. Ribozymes thus provide a means to inhibit the expression of any of the
- 25 proteins encoded by the disclosed nucleic acids or their full-length genes. The full-length gene need not be known in order to design and use specific inhibitory ribozymes. In the case of an nucleic acid or cDNA of unknown function, ribozymes corresponding to that nucleotide sequence can be tested in vitro for efficacy in cleaving the target transcript. Those ribozymes that effect cleavage in vitro are further
- 30 tested in vivo. The ribozyme can also be used to generate an animal model for a disease, as described in Birikh *et al.*, *Eur. J. Biochem.* (1997) 245:1-16. An effective ribozyme is used to determine the function of the gene of interest by blocking its

transcription and detecting a change in the cell. Where the gene is found to be a mediator in a disease, an effective ribozyme is designed and delivered in a gene therapy for blocking transcription and expression of the gene.

Therapeutic and functional genomic applications of ribozymes proceed
5 beginning with knowledge of a portion of the coding sequence of the gene to be inhibited. Thus, for many genes, a partial nucleic acid sequence provides adequate sequence for constructing an effective ribozyme. A target cleavage site is selected in the target sequence, and a ribozyme is constructed based on the 5' and 3' nucleotide sequences that flank the cleavage site. Retroviral vectors are engineered to express
10 monomeric and multimeric hammerhead ribozymes targeting the mRNA of the target coding sequence. These monomeric and multimeric ribozymes are tested in vitro for an ability to cleave the target mRNA. A cell line is stably transduced with the retroviral vectors expressing the ribozymes, and the transduction is confirmed by Northern blot analysis and reverse-transcription polymerase chain reaction (RT-PCR).
15 The cells are screened for inactivation of the target mRNA by such indicators as reduction of expression of disease markers or reduction of the gene product of the target mRNA.

B. Antisense

20 Antisense nucleic acids are designed to specifically bind to RNA, resulting in the formation of RNA-DNA or RNA-RNA hybrids, with an arrest of DNA replication, reverse transcription or messenger RNA translation. Antisense polynucleotides based on a selected nucleic acid sequence can interfere with expression of the corresponding gene. Antisense polynucleotides are typically
25 generated within the cell by expression from antisense constructs that contain the antisense nucleic acid strand as the transcribed strand. Antisense nucleic acids will bind and/or interfere with the translation of nucleic acid-related mRNA. The expression products of control cells and cells treated with the antisense construct are compared to detect the protein product of the gene corresponding to the nucleic acid.
30 The protein is isolated and identified using routine biochemical methods.

One rationale for using antisense methods to determine the function of the gene corresponding to an nucleic acid is the biological activity of antisense

therapeutics. Antisense therapy for a variety of cancers is in clinical phase and has been discussed extensively in the literature. Reed reviewed antisense therapy directed at the Bcl-2 gene in tumors; gene transfer-mediated overexpression of Bcl-2 in tumor cell lines conferred resistance to many types of cancer drugs. (Reed, J.C., *N.C.I.* 5 (1997) 89:988-990). The potential for clinical development of antisense inhibitors of *ras* is discussed by Cowser, L.M., *Anti-Cancer Drug Design* (1997) 12:359-371. Additional important antisense targets include leukemia (Geurtz, A.M., *Anti-Cancer Drug Design* (1997) 12:341-358); human C-ref kinase (Monia, B.P., *Anti-Cancer Drug Design* (1997) 12:327-339); and protein kinase C (McGraw *et al.*, *Anti-Cancer* 10 *Drug Design* (1997) 12:315-326).

Given the extensive background literature and clinical experience in antisense therapy, one skilled in the art can use selected nucleic acids of the invention as additional potential therapeutics. The choice of nucleic acid can be narrowed by first testing them for binding to "hot spot" regions of the genome of cancerous cells. If an 15 nucleic acid is identified as binding to a "hot spot", testing the nucleic acid as an antisense compound in the corresponding cancer cells clearly is warranted.

Ogunbiyi *et al.*, *Gastroenterology* (1997) 113(3):761-766 describe prognostic use of allelic loss in colon cancer; Barks *et al.*, *Genes, Chromosomes, and Cancer* (1997) 19(4):278-285 describe increased chromosome copy number detected by FISH 20 in malignant melanoma; Nishizake *et al.*, *Genes, Chromosomes, and Cancer* (1997) 19(4):267-272 describe genetic alterations in primary breast cancer and their metastases and direct comparison using modified comparative genome hybridization; and Elo *et al.*, *Cancer Research* (1997) 57(16):3356-3359 disclose that loss of heterozygosity at 16z24.1-q24.2 is significantly associated with metastatic and 25 aggressive behavior of prostate cancer.

C. Dominant Negative Mutations

As an alternative method for identifying function of the nucleic acid-related gene, dominant negative mutations are readily generated for corresponding proteins 30 that are active as homomultimers. A mutant polypeptide will interact with wild-type polypeptides (made from the other allele) and form a non-functional multimer. Thus, a mutation is in a substrate-binding domain, a catalytic domain, or a cellular

localization domain. Preferably, the mutant polypeptide will be overproduced. Point mutations are made that have such an effect. In addition, fusion of different polypeptides of various lengths to the terminus of a protein can yield dominant negative mutants. General strategies are available for making dominant negative mutants. See Herskowitz, *Nature* (1987) 329:219-222. Such a technique can be used for creating a loss-of-function mutation, which is useful for determining the function of a protein.

D. Triplex Formation

Endogenous gene expression can also be reduced by inactivating or "knocking out" the gene or its promoter using targeted homologous recombination. (E.g., see Smithies *et al.*, 1985, *Nature* 317:230-234; Thomas & Capecchi, 1987, *Cell* 51:503-512; Thompson *et al.*, 1989 *Cell* 5:313-321; each of which is incorporated by reference herein in its entirety). For example, a mutant, non-functional gene (or a completely unrelated DNA sequence) flanked by DNA homologous to the endogenous gene (either the coding regions or regulatory regions of the gene) can be used, with or without a selectable marker and/or a negative selectable marker, to transfect cells that express that gene *in vivo*. Insertion of the DNA construct, via targeted homologous recombination, results in inactivation of the gene.

Alternatively, endogenous gene expression can be reduced by targeting deoxyribonucleotide sequences complementary to the regulatory region of the target gene (i.e., the gene promoter and/or enhancers) to form triple helical structures that prevent transcription of the gene in target cells in the body. (See generally, Helene, C. 1991, *Anticancer Drug Des.*, 6(6):569-84; Helene, C., *et al.*, 1992, *Ann. N.Y. Acad. Sci.*, 660:27-36; and Maher, L.J., 1992, *Bioassays* 14(12):807-15).

Nucleic acid molecules to be used in triple helix formation for the inhibition of transcription are preferably single stranded and composed of deoxyribonucleotides. The base composition of these oligonucleotides should promote triple helix formation via Hoogsteen base-pairing rules, which generally require sizable stretches of either purines or pyrimidines to be present on one strand of a duplex. Nucleotide sequences may be pyrimidine-based, which will result in TAT and CGC triplets across the three associated strands of the resulting triple helix. The pyrimidine-rich molecules provide

base complementarity to a purine-rich region of a single strand of the duplex in a parallel orientation to that strand. In addition, nucleic acid molecules may be chosen that are purine-rich, for example, containing a stretch of G residues. These molecules will form a triple helix with a DNA duplex that is rich in GC pairs, in which the majority of the purine residues are located on a single strand of the targeted duplex, resulting in CGC triplets across the three strands in the triplex.

Alternatively, the potential sequences that can be targeted for triple helix formation may be increased by creating a so called "switchback" nucleic acid molecule. Switchback molecules are synthesized in an alternating 5'-3', 3'-5' manner, such that they base pair with first one strand of a duplex and then the other, eliminating the necessity for a sizable stretch of either purines or pyrimidines to be present on one strand of a duplex.

Antisense RNA and DNA, ribozyme, and triple helix molecules of the invention may be prepared by any method known in the art for the synthesis of DNA and RNA molecules. These include techniques for chemically synthesizing oligodeoxyribonucleotides and oligoribonucleotides well known in the art such as for example solid phase phosphoramidite chemical synthesis. Alternatively, RNA molecules may be generated by *in vitro* and *in vivo* transcription of DNA sequences encoding the antisense RNA molecule. Such DNA sequences may be incorporated into a wide variety of vectors which incorporate suitable RNA polymerase promoters such as the T7 or SP6 polymerase promoters. Alternatively, antisense cDNA constructs that synthesize antisense RNA constitutively or inducibly, depending on the promoter used, can be introduced stably into cell lines.

Moreover, various well known modifications to nucleic acid molecules may be introduced as a means of increasing intracellular stability and half-life. Possible modifications include but are not limited to the addition of flanking sequences of ribonucleotides or deoxyribonucleotides to the 5' and/or 3' ends of the molecule or the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages within the oligodeoxyribonucleotide backbone.

30

X. Diagnostic & Prognostic Assays and Drug Screening Methods

The present invention provides method for determining whether a subject is at risk for developing a disease or condition characterized by unwanted cell proliferation by detecting the disclosed biomarkers, i.e., the disclosed nucleic acid markers (SEQ ID Nos: 1-850) and/or polypeptide markers for colon cancer encoded thereby.

In clinical applications, human tissue samples can be screened for the presence and/or absence of the biomarkers identified herein. Such samples could consist of needle biopsy cores, surgical resection samples, lymph node tissue, or serum. For example, these methods include obtaining a biopsy, which is optionally fractionated by cryostat sectioning to enrich tumor cells to about 80% of the total cell population. In certain embodiments, nucleic acids extracted from these samples may be amplified using techniques well known in the art. The levels of selected markers detected would be compared with statistically valid groups of metastatic, non-metastatic malignant, benign, or normal colon tissue samples.

In one embodiment, the diagnostic method comprises determining whether a subject has an abnormal mRNA and/or protein level of the disclosed markers, such as by Northern blot analysis, reverse transcription-polymerase chain reaction (RT-PCR), *in situ* hybridization, immunoprecipitation, Western blot hybridization, or immunohistochemistry. According to the method, cells are obtained from a subject and the levels of the disclosed biomarkers, protein or mRNA level, is determined and compared to the level of these markers in a healthy subject. An abnormal level of the biomarker polypeptide or mRNA levels is likely to be indicative of cancer such as colon cancer.

Accordingly, in one aspect, the invention provides probes and primers that are specific to the unique nucleic acid markers disclosed herein. Accordingly, the nucleic acid probes comprise a nucleotide sequence at least 12 nucleotides in length, preferably at least 15 nucleotides, more preferably, 25 nucleotides, and most preferably at least 40 nucleotides, and up to all or nearly all of the coding sequence which is complementary to a portion of the coding sequence of a marker nucleic acid sequence, which nucleic acid sequence is represented by SEQ ID Nos: 1-850 or a sequence complementary thereto.

In one embodiment, the method comprises using a nucleic acid probe to determine the presence of cancerous cells in a tissue from a patient. Specifically, the method comprises:

1. providing a nucleic acid probe comprising a nucleotide
5 sequence at least 12 nucleotides in length, preferably at least 15 nucleotides, more preferably, 25 nucleotides, and most preferably at least 40 nucleotides, and up to all or nearly all of the coding sequence which is complementary to a portion of the coding sequence of a nucleic acid sequence represented by SEQ
10 ID Nos: 1-850 or a sequence complementary thereto and is differentially expressed in tumors cells, such as colon cancer cells;
2. obtaining a tissue sample from a patient potentially comprising cancerous cells;
- 15 3. providing a second tissue sample containing cells substantially all of which are non-cancerous;
4. contacting the nucleic acid probe under stringent conditions
with RNA of each of said first and second tissue samples
20 (e.g., in a Northern blot or in situ hybridization assay); and
5. comparing (a) the amount of hybridization of the probe with RNA of the first tissue sample, with (b) the amount of hybridization of the probe with RNA of the second tissue sample;
- 25 wherein a statistically significant difference in the amount of hybridization with the RNA of the first tissue sample as compared to the amount of hybridization with the RNA of the second tissue sample is indicative of the presence of cancerous cells in the first tissue sample.

30 In one aspect, the method comprises in situ hybridization with a probe derived from a given marker nucleic acid sequence, which nucleic acid sequence is represented by SEQ ID Nos: 1-850 or a sequence complementary thereto. The method comprises contacting the labeled hybridization probe with a sample of a given

type of tissue potentially containing cancerous or precancerous cells as well as normal cells, and determining whether the probe labels some cells of the given tissue type to a degree significantly different (e.g., by at least a factor of two, or at least a factor of five, or at least a factor of twenty, or at least a factor of fifty) than the degree to which
5 it labels other cells of the same tissue type.

Also within the invention is a method of determining the phenotype of a test cell from a given human tissue, e.g., whether the cell is (a) normal, or (b) cancerous or precancerous, by contacting the mRNA of a test cell with a nucleic acid probe at least 12 nucleotides in length, preferably at least 15 nucleotides, more preferably at least 25
10 nucleotides, and most preferably at least 40 nucleotides, and up to all or nearly all of a sequence which is complementary to a portion of the coding sequence of a nucleic acid sequence represented by SEQ ID Nos: 1-850 or a sequence complementary thereto, and which is differentially expressed in tumor cells as compared to normal cells of the given tissue type; and determining the approximate amount of
15 hybridization of the probe to the mRNA, an amount of hybridization either more or less than that seen with the mRNA of a normal cell of that tissue type being indicative that the test cell is cancerous or precancerous.

Alternatively, the above diagnostic assays may be carried out using antibodies to detect the protein product encoded by the marker nucleic acid sequence, which
20 nucleic acid sequence is represented by SEQ ID Nos: 1-850 or a sequence complementary thereto. Accordingly, in one embodiment, the assay would include contacting the proteins of the test cell with an antibody specific for the gene product of a nucleic acid represented by SEQ ID Nos: 1-850 or a sequence complementary thereto, the marker nucleic acid being one which is expressed at a given control level
25 in normal cells of the same tissue type as the test cell, and determining the approximate amount of immunocomplex formation by the antibody and the proteins of the test cell, wherein a statistically significant difference in the amount of the immunocomplex formed with the proteins of a test cell as compared to a normal cell of the same tissue type is an indication that the test cell is cancerous or precancerous.

30 Another such method includes the steps of: providing an antibody specific for the gene product of a marker nucleic acid sequence represented by SEQ ID Nos 1-850, the gene product being present in cancerous tissue of a given tissue type (e.g.,

colon tissue) at a level more or less than the level of the gene product in noncancerous tissue of the same tissue type; obtaining from a patient a first sample of tissue of the given tissue type, which sample potentially includes cancerous cells; providing a second sample of tissue of the same tissue type (which may be from the same patient or from a normal control, e.g. another individual or cultured cells), this second sample containing normal cells and essentially no cancerous cells; contacting the antibody with protein (which may be partially purified, in lysed but unfractionated cells, or in situ) of the first and second samples under conditions permitting immunocomplex formation between the antibody and the marker nucleic acid sequence product present in the samples; and comparing (a) the amount of immunocomplex formation in the first sample, with (b) the amount of immunocomplex formation in the second sample, wherein a statistically significant difference in the amount of immunocomplex formation in the first sample less as compared to the amount of immunocomplex formation in the second sample is indicative of the presence of cancerous cells in the first sample of tissue.

The subject invention further provides a method of determining whether a cell sample obtained from a subject possesses an abnormal amount of marker polypeptide which comprises (a) obtaining a cell sample from the subject, (b) quantitatively determining the amount of the marker polypeptide in the sample so obtained, and (c) comparing the amount of the marker polypeptide so determined with a known standard, so as to thereby determine whether the cell sample obtained from the subject possesses an abnormal amount of the marker polypeptide. Such marker polypeptides may be detected by immunohistochemical assays, dot-blot assays, ELISA and the like.

Immunoassays are commonly used to quantitate the levels of proteins in cell samples, and many other immunoassay techniques are known in the art. The invention is not limited to a particular assay procedure, and therefore is intended to include both homogeneous and heterogeneous procedures. Exemplary immunoassays which can be conducted according to the invention include fluorescence polarization immunoassay (FPIA), fluorescence immunoassay (FIA), enzyme immunoassay (EIA), nephelometric inhibition immunoassay (NIA), enzyme linked immunosorbent assay (ELISA), and radioimmunoassay (RIA). An indicator moiety, or label group, can be

attached to the subject antibodies and is selected so as to meet the needs of various uses of the method which are often dictated by the availability of assay equipment and compatible immunoassay procedures. General techniques to be used in performing the various immunoassays noted above are known to those of ordinary skill in the art.

5 In another embodiment, the level of the encoded product, i.e., the product encoded by SEQ ID Nos 1-850 or a sequence complementary thereto, in a biological fluid (e.g., blood or urine) of a patient may be determined as a way of monitoring the level of expression of the marker nucleic acid sequence in cells of that patient. Such a method would include the steps of obtaining a sample of a biological fluid from the
10 patient, contacting the sample (or proteins from the sample) with an antibody specific for a encoded marker polypeptide, and determining the amount of immune complex formation by the antibody, with the amount of immune complex formation being indicative of the level of the marker encoded product in the sample. This determination is particularly instructive when compared to the amount of immune
15 complex formation by the same antibody in a control sample taken from a normal individual or in one or more samples previously or subsequently obtained from the same person.

 In another embodiment, the method can be used to determine the amount of marker polypeptide present in a cell, which in turn can be correlated with progression
20 of a hyperproliferative disorder, e.g., colon cancer. The level of the marker polypeptide can be used predictively to evaluate whether a sample of cells contains cells which are, or are predisposed towards becoming, transformed cells. Moreover, the subject method can be used to assess the phenotype of cells which are known to be transformed, the phenotyping results being useful in planning a particular therapeutic
25 regimen. For instance, very high levels of the marker polypeptide in sample cells is a powerful diagnostic and prognostic marker for a cancer, such as colon cancer. The observation of marker polypeptide level can be utilized in decisions regarding, e.g., the use of more aggressive therapies.

 As set out above, one aspect of the present invention relates to diagnostic
30 assays for determining, in the context of cells isolated from a patient, if the level of a marker polypeptide is significantly reduced in the sample cells. The term "significantly reduced" refers to a cell phenotype wherein the cell possesses a

reduced cellular amount of the marker polypeptide relative to a normal cell of similar tissue origin. For example, a cell may have less than about 50%, 25%, 10%, or 5% of the marker polypeptide that a normal control cell. In particular, the assay evaluates the level of marker polypeptide in the test cells, and, preferably, compares the
5 measured level with marker polypeptide detected in at least one control cell, e.g., a normal cell and/or a transformed cell of known phenotype.

Of particular importance to the subject invention is the ability to quantitate the level of marker polypeptide as determined by the number of cells associated with a normal or abnormal marker polypeptide level. The number of cells with a particular
10 marker polypeptide phenotype may then be correlated with patient prognosis. In one embodiment of the invention, the marker polypeptide phenotype of the lesion is determined as a percentage of cells in a biopsy which are found to have abnormally high/low levels of the marker polypeptide. Such expression may be detected by immunohistochemical assays, dot-blot assays, ELISA and the like.

15 Where tissue samples are employed, immunohistochemical staining may be used to determine the number of cells having the marker polypeptide phenotype. For such staining, a multiblock of tissue is taken from the biopsy or other tissue sample and subjected to proteolytic hydrolysis, employing such agents as protease K or pepsin. In certain embodiments, it may be desirable to isolate a nuclear fraction from
20 the sample cells and detect the level of the marker polypeptide in the nuclear fraction.

The tissue samples are fixed by treatment with a reagent such as formalin, glutaraldehyde, methanol, or the like. The samples are then incubated with an antibody, preferably a monoclonal antibody, with binding specificity for the marker polypeptides. This antibody may be conjugated to a label for subsequent detection of
25 binding. Samples are incubated for a time sufficient for formation of the immuno-complexes. Binding of the antibody is then detected by virtue of a label conjugated to this antibody. Where the antibody is unlabeled, a second labeled antibody may be employed, e.g., which is specific for the isotype of the anti-marker polypeptide antibody. Examples of labels which may be employed include radionuclides,
30 fluorescers, chemiluminescers, enzymes and the like.

Where enzymes are employed, the substrate for the enzyme may be added to the samples to provide a colored or fluorescent product. Examples of suitable

enzymes for use in conjugates include horseradish peroxidase, alkaline phosphatase, malate dehydrogenase and the like. Where not commercially available, such antibody-enzyme conjugates are readily produced by techniques known to those skilled in the art.

5 In one embodiment, the assay is performed as a dot blot assay. The dot blot assay finds particular application where tissue samples are employed as it allows determination of the average amount of the marker polypeptide associated with a single cell by correlating the amount of marker polypeptide in a cell-free extract produced from a predetermined number of cells.

10 It is well established in the cancer literature that tumor cells of the same type (e.g., breast and/or colon tumor cells) may not show uniformly increased expression of individual oncogenes or uniformly decreased expression of individual tumor suppressor genes. There may also be varying levels of expression of a given marker gene even between cells of a given type of cancer, further emphasizing the need for
15 reliance on a battery of tests rather than a single test. Accordingly, in one aspect, the invention provides for a battery of tests utilizing a number of probes of the invention, in order to improve the reliability and/or accuracy of the diagnostic test.

 In one embodiment, the present invention also provides a method wherein nucleic acid probes are immobilized on a DNA chip in an organized array.
20 Oligonucleotides can be bound to a solid support by a variety of processes, including lithography. For example a chip can hold up to 250,000 oligonucleotides (GeneChip, Affymetrix). These nucleic acid probes comprise a nucleotide sequence at least about 12 nucleotides in length, preferably at least about 15 nucleotides, more preferably at least about 25 nucleotides, and most preferably at least about 40 nucleotides, and up to
25 all or nearly all of a sequence which is complementary to a portion of the coding sequence of a marker nucleic acid sequence represented by SEQ ID Nos: 1-850 and is differentially expressed in tumor cells, such as colon cancer cells. The present invention provides significant advantages over the available tests for various cancers, such as colon cancer, because it increases the reliability of the test by providing an
30 array of nucleic acid markers on a single chip.

 The method includes obtaining a biopsy, which is optionally fractionated by cryostat sectioning to enrich tumor cells to about 80% of the total cell population. The

DNA or RNA is then extracted, amplified, and analyzed with a DNA chip to determine the presence or absence of the marker nucleic acid sequences.

In one embodiment, the nucleic acid probes are spotted onto a substrate in a two-dimensional matrix or array. Samples of nucleic acids can be labeled and then
5 hybridized to the probes. Double-stranded nucleic acids, comprising the labeled sample nucleic acids bound to probe nucleic acids, can be detected once the unbound portion of the sample is washed away.

The probe nucleic acids can be spotted on substrates including glass, nitrocellulose, etc. The probes can be bound to the substrate by either covalent bonds
10 or by non-specific interactions, such as hydrophobic interactions. The sample nucleic acids can be labeled using radioactive labels, fluorophores, chromophores, etc.

Techniques for constructing arrays and methods of using these arrays are described in EP No. 0 799 897; PCT No. WO 97/29212; PCT No. WO 97/27317; EP No. 0 785 280; PCT No. WO 97/02357; U.S. Pat. No. 5,593,839; U.S. Pat. No.
15 5,578,832; EP No. 0 728 520; U.S. Pat. No. 5,599,695; EP No. 0 721 016; U.S. Pat. No. 5,556,752; PCT No. WO 95/22058; and U.S. Pat. No. 5,631,734.

Further, arrays can be used to examine differential expression of genes and can be used to determine gene function. For example, arrays of the instant nucleic acid sequences can be used to determine if any of the nucleic acid sequences are
20 differentially expressed between normal cells and cancer cells, for example. High expression of a particular message in a cancer cell, which is not observed in a corresponding normal cell, can indicate a cancer specific protein.

In yet another embodiment, the invention contemplates using a panel of antibodies which are generated against the marker polypeptides of this invention,
25 which polypeptides are encoded by SEQ ID Nos 1-850. Such a panel of antibodies may be used as a reliable diagnostic probe for colon cancer. The assay of the present invention comprises contacting a biopsy sample containing cells, e.g., colon cells, with a panel of antibodies to one or more of the encoded products to determine the presence or absence of the marker polypeptides.

30 The diagnostic methods of the subject invention may also be employed as follow-up to treatment, e.g., quantitation of the level of marker polypeptides may be

indicative of the effectiveness of current or previously employed cancer therapies as well as the effect of these therapies upon patient prognosis.

Accordingly, the present invention makes available diagnostic assays and reagents for detecting gain and/or loss of marker polypeptides from a cell in order to aid in the diagnosis and phenotyping of proliferative disorders arising from, for example, tumorigenic transformation of cells.

The diagnostic assays described above can be adapted to be used as prognostic assays, as well. Such an application takes advantage of the sensitivity of the assays of the invention to events which take place at characteristic stages in the progression of a tumor. For example, a given marker gene may be up- or downregulated at a very early stage, perhaps before the cell is irreversibly committed to developing into a malignancy, while another marker gene may be characteristically up or down regulated only at a much later stage. Such a method could involve the steps of contacting the mRNA of a test cell with a nucleic acid probe derived from a given marker nucleic acid which is expressed at different characteristic levels in cancerous or precancerous cells at different stages of tumor progression, and determining the approximate amount of hybridization of the probe to the mRNA of the cell, such amount being an indication of the level of expression of the gene in the cell, and thus an indication of the stage of tumor progression of the cell; alternatively, the assay can be carried out with an antibody specific for the gene product of the given marker nucleic acid, contacted with the proteins of the test cell. A battery of such tests will disclose not only the existence and location of a tumor, but also will allow the clinician to select the mode of treatment most appropriate for the tumor, and to predict the likelihood of success of that treatment.

The methods of the invention can also be used to follow the clinical course of a tumor. For example, the assay of the invention can be applied to a tissue sample from a patient; following treatment of the patient for the cancer, another tissue sample is taken and the test repeated. Successful treatment will result in either removal of all cells which demonstrate differential expression characteristic of the cancerous or precancerous cells, or a substantial increase in expression of the gene in those cells, perhaps approaching or even surpassing normal levels.

In yet another embodiment, the invention provides methods for determining whether a subject is at risk for developing a disease, such as a predisposition to develop cancer, for example colon cancer, associated with an aberrant activity of any one of the polypeptides encoded by nucleic acids of SEQ ID Nos: 1-850, wherein the aberrant activity of the polypeptide is characterized by detecting the presence or absence of a genetic lesion characterized by at least one of (i) an alteration affecting the integrity of a gene encoding a marker polypeptides, or (ii) the mis-expression of the encoding nucleic acid. To illustrate, such genetic lesions can be detected by ascertaining the existence of at least one of (i) a deletion of one or more nucleotides from the nucleic acid sequence, (ii) an addition of one or more nucleotides to the nucleic acid sequence, (iii) a substitution of one or more nucleotides of the nucleic acid sequence, (iv) a gross chromosomal rearrangement of the nucleic acid sequence, (v) a gross alteration in the level of a messenger RNA transcript of the nucleic acid sequence, (vi) aberrant modification of the nucleic acid sequence, such as of the methylation pattern of the genomic DNA, (vii) the presence of a non-wild type splicing pattern of a messenger RNA transcript of the gene, (viii) a non-wild type level of the marker polypeptide, (ix) allelic loss of the gene, and/or (x) inappropriate post-translational modification of the marker polypeptide.

The present invention provides assay techniques for detecting lesions in the encoding nucleic acid sequence. These methods include, but are not limited to, methods involving sequence analysis, Southern blot hybridization, restriction enzyme site mapping, and methods involving detection of absence of nucleotide pairing between the nucleic acid to be analyzed and a probe.

Specific diseases or disorders, e.g., genetic diseases or disorders, are associated with specific allelic variants of polymorphic regions of certain genes, which do not necessarily encode a mutated protein. Thus, the presence of a specific allelic variant of a polymorphic region of a gene in a subject can render the subject susceptible to developing a specific disease or disorder. Polymorphic regions in genes, can be identified, by determining the nucleotide sequence of genes in populations of individuals. If a polymorphic region is identified, then the link with a specific disease can be determined by studying specific populations of individuals, e.g, individuals which developed a specific disease, such as colon cancer. A

polymorphic region can be located in any region of a gene, e.g., exons, in coding or non coding regions of exons, introns, and promoter region.

In an exemplary embodiment, there is provided a nucleic acid composition comprising a nucleic acid probe including a region of nucleotide sequence which is capable of hybridizing to a sense or antisense sequence of a gene or naturally occurring mutants thereof, or 5' or 3' flanking sequences or intronic sequences naturally associated with the subject genes or naturally occurring mutants thereof. The nucleic acid of a cell is rendered accessible for hybridization, the probe is contacted with the nucleic acid of the sample, and the hybridization of the probe to the sample nucleic acid is detected. Such techniques can be used to detect lesions or allelic variants at either the genomic or mRNA level, including deletions, substitutions, etc., as well as to determine mRNA transcript levels.

A preferred detection method is allele specific hybridization using probes overlapping the mutation or polymorphic site and having about 5, 10, 20, 25, or 30 nucleotides around the mutation or polymorphic region. In a preferred embodiment of the invention, several probes capable of hybridizing specifically to allelic variants are attached to a solid phase support, e.g., a "chip". Mutation detection analysis using these chips comprising oligonucleotides, also termed "DNA probe arrays" is described e.g., in Cronin et al. (1996) *Human Mutation* 7:244. In one embodiment, a chip comprises all the allelic variants of at least one polymorphic region of a gene. The solid phase support is then contacted with a test nucleic acid and hybridization to the specific probes is detected. Accordingly, the identity of numerous allelic variants of one or more genes can be identified in a simple hybridization experiment.

In certain embodiments, detection of the lesion comprises utilizing the probe/primer in a polymerase chain reaction (PCR) (see, e.g. U.S. Patent Nos. 4,683,195 and 4,683,202), such as anchor PCR or RACE PCR, or, alternatively, in a ligase chain reaction (LCR) (see, e.g., Landegran *et al.* (1988) *Science* 241:1077-1080; and Nakazawa *et al.* (1994) *PNAS* 91:360-364), the latter of which can be particularly useful for detecting point mutations in the gene (see Abravaya et al. (1995) *Nuc Acid Res* 23:675-682). In a merely illustrative embodiment, the method includes the steps of (i) collecting a sample of cells from a patient, (ii) isolating nucleic acid (e.g., genomic, mRNA or both) from the cells of the sample, (iii)

contacting the nucleic acid sample with one or more primers which specifically hybridize to a nucleic acid sequence under conditions such that hybridization and amplification of the nucleic acid (if present) occurs, and (iv) detecting the presence or absence of an amplification product, or detecting the size of the amplification product and comparing the length to a control sample. It is anticipated that PCR and/or LCR may be desirable to use as a preliminary amplification step in conjunction with any of the techniques used for detecting mutations described herein.

Alternative amplification methods include: self sustained sequence replication (Guatelli, J.C. *et al.*, 1990, Proc. Natl. Acad. Sci. USA 87:1874-1878), transcriptional amplification system (Kwoh, D.Y. *et al.*, 1989, Proc. Natl. Acad. Sci. USA 86:1173-1177), Q-Beta Replicase (Lizardi, P.M. *et al.*, 1988, Bio/Technology 6:1197), or any other nucleic acid amplification method, followed by the detection of the amplified molecules using techniques well known to those of skill in the art. These detection schemes are especially useful for the detection of nucleic acid molecules if such molecules are present in very low numbers.

In a preferred embodiment of the subject assay, mutations in, or allelic variants, of a gene from a sample cell are identified by alterations in restriction enzyme cleavage patterns. For example, sample and control DNA is isolated, amplified (optionally), digested with one or more restriction endonucleases, and fragment length sizes are determined by gel electrophoresis. Moreover, the use of sequence specific ribozymes (see, for example, U.S. Patent No. 5,498,531) can be used to score for the presence of specific mutations by development or loss of a ribozyme cleavage site.

Another aspect of the invention is directed to the identification of agents capable of modulating the differentiation and proliferation of cells characterized by aberrant proliferation. In this regard, the invention provides assays for determining compounds that modulate the expression of the marker nucleic acids (SEQ ID Nos: 1-850) and/or alter for example, inhibit the bioactivity of the encoded polypeptide.

Several in vivo methods can be used to identify compounds that modulate expression of the marker nucleic acids (SEQ ID Nos: 1-850) and/or alter for example, inhibit the bioactivity of the encoded polypeptide.

Drug screening is performed by adding a test compound to a sample of cells, and monitoring the effect. A parallel sample which does not receive the test compound is also monitored as a control. The treated and untreated cells are then compared by any suitable phenotypic criteria, including but not limited to microscopic analysis, viability testing, ability to replicate, histological examination, the level of a particular RNA or polypeptide associated with the cells, the level of enzymatic activity expressed by the cells or cell lysates, and the ability of the cells to interact with other cells or compounds. Differences between treated and untreated cells indicates effects attributable to the test compound.

Desirable effects of a test compound include an effect on any phenotype that was conferred by the cancer-associated marker nucleic acid sequence. Examples include a test compound that limits the overabundance of mRNA, limits production of the encoded protein, or limits the functional effect of the protein. The effect of the test compound would be apparent when comparing results between treated and untreated cells.

The invention thus also encompasses methods of screening for agents which inhibit expression of the nucleic acid markers (SEQ ID Nos: 1-850) in vitro, comprising exposing a cell or tissue in which the marker nucleic acid mRNA is detectable in cultured cells to an agent in order to determine whether the agent is capable of inhibiting production of the mRNA; and determining the level of mRNA in the exposed cells or tissue, wherein a decrease in the level of the mRNA after exposure of the cell line to the agent is indicative of inhibition of the marker nucleic acid mRNA production.

Alternatively, the screening method may include in vitro screening of a cell or tissue in which marker protein is detectable in cultured cells to an agent suspected of inhibiting production of the marker protein; and determining the level of the marker protein in the cells or tissue, wherein a decrease in the level of marker protein after exposure of the cells or tissue to the agent is indicative of inhibition of marker protein production.

The invention also encompasses in vivo methods of screening for agents which inhibit expression of the marker nucleic acids, comprising exposing a mammal having tumor cells in which marker mRNA or protein is detectable to an agent

suspected of inhibiting production of marker mRNA or protein; and determining the level of marker mRNA or protein in tumor cells of the exposed mammal. A decrease in the level of marker mRNA or protein after exposure of the mammal to the agent is indicative of inhibition of marker nucleic acid expression.

5 Accordingly, the invention provides a method comprising incubating a cell expressing the marker nucleic acids (SEQ ID Nos: 1-850) with a test compound and measuring the mRNA or protein level. The invention further provides a method for quantitatively determining the level of expression of the marker nucleic acids in a cell population, and a method for determining whether an agent is capable of increasing or
10 decreasing the level of expression of the marker nucleic acids in a cell population. The method for determining whether an agent is capable of increasing or decreasing the level of expression of the marker nucleic acids in a cell population comprises the steps of (a) preparing cell extracts from control and agent-treated cell populations, (b) isolating the marker polypeptides from the cell extracts, (c) quantifying (e.g., in
15 parallel) the amount of an immunocomplex formed between the marker polypeptide and an antibody specific to said polypeptide. The marker polypeptides of this invention may also be quantified by assaying for its bioactivity. Agents that induce increased the marker nucleic acid expression may be identified by their ability to increase the amount of immunocomplex formed in the treated cell as compared with
20 the amount of the immunocomplex formed in the control cell. In a similar manner, agents that decrease expression of the marker nucleic acid may be identified by their ability to decrease the amount of the immunocomplex formed in the treated cell extract as compared to the control cell.

 mRNA levels can be determined by Northern blot hybridization. mRNA levels
25 can also be determined by methods involving PCR. Other sensitive methods for measuring mRNA, which can be used in high throughput assays, e.g., a method using a DELFIA endpoint detection and quantification method, are described, e.g., in Webb and Hurskainen (1996) *Journal of Biomolecular Screening* 1:119. Marker protein levels can be determined by immunoprecipitations or immunohistochemistry using an
30 antibody that specifically recognizes the protein product encoded by SEQ ID Nos: 1-850.

Agents that are identified as active in the drug screening assay are candidates to be tested for their capacity to block cell proliferation activity. These agents would be useful for treating a disorder involving aberrant growth of cells, especially colon cells.

5 A variety of assay formats will suffice and, in light of the present disclosure, those not expressly described herein will nevertheless be comprehended by one of ordinary skill in the art. For instance, the assay can be generated in many different formats, and include assays based on cell-free systems, e.g., purified proteins or cell lysates, as well as cell-based assays which utilize intact cells.

10 In many drug screening programs which test libraries of compounds and natural extracts, high throughput assays are desirable in order to maximize the number of compounds surveyed in a given period of time. Assays of the present invention which are performed in cell-free systems, such as may be derived with purified or semi-purified proteins or with lysates, are often preferred as "primary" screens in that
15 they can be generated to permit rapid development and relatively easy detection of an alteration in a molecular target which is mediated by a test compound. Moreover, the effects of cellular toxicity and/or bioavailability of the test compound can be generally ignored in the *in vitro* system, the assay instead being focused primarily on the effect of the drug on the molecular target as may be manifest in an alteration of binding
20 affinity with other proteins or changes in enzymatic properties of the molecular target.

A. Use of Nucleic Acids as Probes in Mapping and in Tissue Profiling

Probes

25 Polynucleotide probes as described above, e.g., comprising at least 12 contiguous nucleotides selected from the nucleotide sequence of an nucleic acid as shown in SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, are used for a variety of purposes, including identification of human chromosomes and determining
30 transcription levels. Additional disclosure about preferred regions of the nucleic acid sequences is found in the accompanying tables.

The nucleotide probes are labeled, for example, with a radioactive, fluorescent, biotinylated, or chemiluminescent label, and detected by well known methods appropriate for the particular label selected. Protocols for hybridizing nucleotide probes to preparations of metaphase chromosomes are also well known in the art. A nucleotide probe will hybridize specifically to nucleotide sequences in the chromosome preparations which are complementary to the nucleotide sequence of the probe. A probe that hybridizes specifically to an nucleic acid should provide a detection signal at least 5-, 10-, or 20-fold higher than the background hybridization provided with other unrelated sequences.

In a non-limiting example, commercial programs are available for identifying regions of chromosomes commonly associated with disease, such as cancer. Nucleic acids of the invention can be used to probe these regions. For example, if, through profile searching, a nucleic acid is identified as corresponding to a gene encoding a kinase, its ability to bind to a cancer-related chromosomal region will suggest its role as a kinase in one or more stages of tumor cell development/growth. Although some experimentation would be required to elucidate the role, the nucleic acid constitutes a new material for isolating a specific protein that has potential for developing a cancer diagnostic or therapeutic.

Nucleotide probes are used to detect expression of a gene corresponding to the nucleic acid. For example, in Northern blots, mRNA is separated electrophoretically and contacted with a probe. A probe is detected as hybridizing to an mRNA species of a particular size. The amount of hybridization is quantitated to determine relative amounts of expression, for example under a particular condition. Probes are also used to detect products of amplification by polymerase chain reaction. The products of the reaction are hybridized to the probe and hybrids are detected. Probes are used for in situ hybridization to cells to detect expression. Probes can also be used in vivo for diagnostic detection of hybridizing sequences. Probes are typically labeled with a radioactive isotope. Other types of detectable labels may be used such as chromophores, fluorophores, and enzymes.

Expression of specific mRNA can vary in different cell types and can be tissue specific. This variation of mRNA levels in different cell types can be exploited with nucleic acid probe assays to determine tissue types. For example, PCR, branched

DNA probe assays, or blotting techniques utilizing nucleic acid probes substantially identical or complementary to nucleic acids of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, can determine the presence or absence of target cDNA or mRNA.

Examples of a nucleotide hybridization assay are described in Urdea *et al.*, PCT WO92/02526 and Urdea *et al.*, U.S. Patent No. 5,124,246, both incorporated herein by reference. The references describe an example of a sandwich nucleotide hybridization assay.

Alternatively, the Polymerase Chain Reaction (PCR) is another means for detecting small amounts of target nucleic acids, as described in Mullis *et al.*, *Meth. Enzymol.* (1987) 155:335-350; U.S. Patent No. 4,683,195; and U.S. Patent No. 4,683,202, all incorporated herein by reference. Two primer polynucleotides hybridize with the target nucleic acids and are used to prime the reaction. The primers may be composed of sequence within or 3' and 5' to the polynucleotides of the Sequence Listing. Alternatively, if the primers are 3' and 5' to these polynucleotides, they need not hybridize to them or the complements. A thermostable polymerase creates copies of target nucleic acids from the primers using the original target nucleic acids as a template. After a large amount of target nucleic acids is generated by the polymerase, it is detected by methods such as Southern blots. When using the Southern blot method, the labeled probe will hybridize to a polynucleotide of the Sequence Listing or complement.

Furthermore, mRNA or cDNA can be detected by traditional blotting techniques described in Sambrook *et al.*, "Molecular Cloning: A Laboratory Manual" (New York, Cold Spring Harbor Laboratory, 1989). mRNA or cDNA generated from mRNA using a polymerase enzyme can be purified and separated using gel electrophoresis. The nucleic acids on the gel are then blotted onto a solid support, such as nitrocellulose. The solid support is exposed to a labeled probe and then washed to remove any unhybridized probe. Next, the duplexes containing the labeled probe are detected. Typically, the probe is labeled with radioactivity.

Mapping

Nucleic acids of the present invention are used to identify a chromosome on which the corresponding gene resides. Using fluorescence in situ hybridization (FISH) on normal metaphase spreads, comparative genomic hybridization allows total
5 genome assessment of changes in relative copy number of DNA sequences. See Schwartz and Samad, *Current Opinions in Biotechnology* (1994) 8:70-74; Kallioniemi *et al.*, *Seminars in Cancer Biology* (1993) 4:41-46; Valdes and Tagle, *Methods in Molecular Biology* (1997) 68:1, Boultonwood, ed., Human Press, Totowa, NJ.

Preparations of human metaphase chromosomes are prepared using standard
10 cytogenetic techniques from human primary tissues or cell lines. Nucleotide probes comprising at least 12 contiguous nucleotides selected from the nucleotide sequence of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto, are used to identify the
15 corresponding chromosome. The nucleotide probes are labeled, for example, with a radioactive, fluorescent, biotinylated, or chemiluminescent label, and detected by well known methods appropriate for the particular label selected. Protocols for hybridizing nucleotide probes to preparations of metaphase chromosomes are also well known in the art. A nucleotide probe will hybridize specifically to nucleotide sequences in the chromosome preparations that are complementary to the nucleotide sequence of the
20 probe. A probe that hybridizes specifically to a target gene provides a detection signal at least 5-, 10-, or 20-fold higher than the background hybridization provided with unrelated coding sequences.

Nucleic acids are mapped to particular chromosomes using, for example, radiation hybrids or chromosome-specific hybrid panels. See Leach *et al.*, *Advances
25 in Genetics*, (1995) 33:63-99; Walter *et al.*, *Nature Genetics* (1994) 7:22-28; Walter and Goodfellow, *Trends in Genetics* (1992) 9:352. Panels for radiation hybrid mapping are available from Research Genentics, Inc., Huntsville, Alabama, USA. Databases for markers using various panels are available via the world wide web at <http://F/shgc-www.stanford.edu>; and other locations. The statistical program RHMAP
30 can be used to construct a map based on the data from radiation hybridization with a measure of the relative likelihood of one order versus another. RHMAP is available via the world wide web at <http://www.sph.umich.edu/group/statgen/software>.

Such mapping can be useful in identifying the function of the target gene by its proximity to other genes with known function. Function can also be assigned to the target gene when particular syndromes or diseases map to the same chromosome.

5 Tissue Profiling

The nucleic acids of the present invention can be used to determine the tissue type from which a given sample is derived. For example, a metastatic lesion is identified by its developmental organ or tissue source by identifying the expression of a particular marker of that organ or tissue. If a nucleic acid is expressed only in a
10 specific tissue type, and a metastatic lesion is found to express that nucleic acid, then the developmental source of the lesion has been identified. Expression of a particular nucleic acid is assayed by detection of either the corresponding mRNA or the protein product. Immunological methods, such as antibody staining, are used to detect a particular protein product. Hybridization methods may be used to detect particular
15 mRNA species, including but not limited to in situ hybridization and Northern blotting.

Use of Polymorphisms

A nucleic acid will be useful in forensics, genetic analysis, mapping, and
20 diagnostic applications if the corresponding region of a gene is polymorphic in the human population. A particular polymorphic form of the nucleic acid may be used to either identify a sample as deriving from a suspect or rule out the possibility that the sample derives from the suspect. Any means for detecting a polymorphism in a gene are used, including but not limited to electrophoresis of protein polymorphic variants,
25 differential sensitivity to restriction enzyme cleavage, and hybridization to an allele-specific probe.

B. Use of Nucleic Acids and Encoded Polypeptides to Raise Antibodies

Expression products of a nucleic acid, the corresponding mRNA or cDNA, or
30 the corresponding complete gene are prepared and used for raising antibodies for experimental, diagnostic, and therapeutic purposes. For nucleic acids to which a corresponding gene has not been assigned, this provides an additional method of

identifying the corresponding gene. The nucleic acid or related cDNA is expressed as described above, and antibodies are prepared. These antibodies are specific to an epitope on the encoded polypeptide, and can precipitate or bind to the corresponding native protein in a cell or tissue preparation or in a cell-free extract of an in vitro expression system.

Immunogens for raising antibodies are prepared by mixing the polypeptides encoded by the nucleic acids of the present invention with adjuvants. Alternatively, polypeptides are made as fusion proteins to larger immunogenic proteins. Polypeptides are also covalently linked to other larger immunogenic proteins, such as keyhole limpet hemocyanin. Immunogens are typically administered intradermally, subcutaneously, or intramuscularly. Immunogens are administered to experimental animals such as rabbits, sheep, and mice, to generate antibodies. Optionally, the animal spleen cells are isolated and fused with myeloma cells to form hybridomas which secrete monoclonal antibodies. Such methods are well known in the art.

According to another method known in the art, the nucleic acid is administered directly, such as by intramuscular injection, and expressed in vivo. The expressed protein generates a variety of protein-specific immune responses, including production of antibodies, comparable to administration of the protein.

Preparations of polyclonal and monoclonal antibodies specific for nucleic acid-encoded proteins and polypeptides are made using standard methods known in the art. The antibodies specifically bind to epitopes present in the polypeptides encoded by a nucleic acid of SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a sequence complementary thereto. In another embodiment, the antibodies specifically bind to epitopes present in a polypeptide encoded by SEQ ID Nos. 1-850. Typically, at least about 6, 8, 10, or 12 contiguous amino acids are required to form an epitope. However, epitopes which involve non-contiguous amino acids may require more, for example, at least about 15, 25, or 50 amino acids. A short sequence of a nucleic acid may then be unsuitable for use as an epitope to raise antibodies for identifying the corresponding novel protein, because of the potential for cross-reactivity with a known protein. However, the antibodies may be useful for other purposes, particularly if they identify common

structural features of a known protein and a novel polypeptide encoded by a nucleic acid of the invention.

Antibodies that specifically bind to human nucleic acid-encoded polypeptides should provide a detection signal at least about 5-, 10-, or 20-fold higher than a
5 detection signal provided with other proteins when used in Western blots or other immunochemical assays. Preferably, antibodies that specifically bind nucleic acid T-encoded polypeptides do not detect other proteins in immunochemical assays and can immunoprecipitate nucleic acid-encoded proteins from solution.

To test for the presence of serum antibodies to the nucleic acid-encoded
10 polypeptide in a human population, human antibodies are purified by methods well known in the art. Preferably, the antibodies are affinity purified by passing antiserum over a column to which an nucleic acid-encoded protein, polypeptide, or fusion protein is bound. The bound antibodies can then be eluted from the column, for example using a buffer with a high salt concentration.

15 In addition to the antibodies discussed above, genetically engineered antibody derivatives are made, such as single chain antibodies.

Antibodies may be made by using standard protocols known in the art (See, for example, Antibodies: A Laboratory Manual ed. by Harlow and Lane (Cold Spring Harbor Press: 1988)). A mammal, such as a mouse, hamster, or rabbit can be
20 immunized with an immunogenic form of the peptide (e.g., a mammalian polypeptide or an antigenic fragment which is capable of eliciting an antibody response, or a fusion protein as described above).

In one aspect, this invention includes monoclonal antibodies that show a subject polypeptide is highly expressed in colorectal tissue or tumor tissue, especially
25 colon cancer tissue or colon cancer-derived cell lines. Therefore, in one embodiment, this invention provides a diagnostic tool for the analysis of expression of a subject polypeptide in general, and in particular, as a diagnostic for colon cancer.

Techniques for conferring immunogenicity on a protein or peptide include conjugation to carriers or other techniques well known in the art. An immunogenic
30 portion of a protein can be administered in the presence of adjuvant. The progress of immunization can be monitored by detection of antibody titers in plasma or serum. Standard ELISA or other immunoassays can be used with the immunogen as antigen

to assess the levels of antibodies. In a preferred embodiment, the subject antibodies are immunospecific for antigenic determinants of a protein of a mammal, e.g., antigenic determinants of a protein encoded by one of SEQ ID Nos. 1-850 or closely related homologs (e.g., at least 90% identical, and more preferably at least 95% identical).

Following immunization of an animal with an antigenic preparation of a polypeptide, antisera can be obtained and, if desired, polyclonal antibodies isolated from the serum. To produce monoclonal antibodies, antibody-producing cells (lymphocytes) can be harvested from an immunized animal and fused by standard somatic cell fusion procedures with immortalizing cells such as myeloma cells to yield hybridoma cells. Such techniques are well known in the art, and include, for example, the hybridoma technique (originally developed by Kohler and Milstein, (1975) *Nature*, 256: 495-497), the human B cell hybridoma technique (Kozbar *et al.*, (1983) *Immunology Today*, 4: 72), and the EBV-hybridoma technique to produce human monoclonal antibodies (Cole *et al.*, (1985) *Monoclonal Antibodies and Cancer Therapy*, Alan R. Liss, Inc. pp. 77-96). Hybridoma cells can be screened immunochemically for production of antibodies specifically reactive with a polypeptide of the present invention and monoclonal antibodies isolated from a culture comprising such hybridoma cells.

The term antibody as used herein is intended to include fragments thereof which are also specifically reactive with one of the subject polypeptides. Antibodies can be fragmented using conventional techniques and the fragments screened for utility in the same manner as described above for whole antibodies. For example, F(ab)₂ fragments can be generated by treating antibody with pepsin. The resulting F(ab)₂ fragment can be treated to reduce disulfide bridges to produce Fab fragments. The antibody of the present invention is further intended to include bispecific, single-chain, and chimeric and humanized molecules having affinity for a polypeptide conferred by at least one CDR region of the antibody. In preferred embodiments, the antibodies, the antibody further comprises a label attached thereto and able to be detected, (e.g., the label can be a radioisotope, fluorescent compound, chemiluminescent compound, enzyme, or enzyme co-factor).

Antibodies can be used, e.g., to monitor protein levels in an individual for determining, e.g., whether a subject has a disease or condition, such as colon cancer, associated with an aberrant protein level, or allowing determination of the efficacy of a given treatment regimen for an individual afflicted with such a disorder. The level of polypeptides may be measured from cells in bodily fluid, such as in blood samples.

Another application of antibodies of the present invention is in the immunological screening of cDNA libraries constructed in expression vectors such as gt11, gt18-23, ZAP, and ORF8. Messenger libraries of this type, having coding sequences inserted in the correct reading frame and orientation, can produce fusion proteins. For instance, gt11 will produce fusion proteins whose amino termini consist of β -galactosidase amino acid sequences and whose carboxyl termini consist of a foreign polypeptide. Antigenic epitopes of a protein, e.g., other orthologs of a particular protein or other paralogs from the same species, can then be detected with antibodies, as, for example, reacting nitrocellulose filters lifted from infected plates with antibodies. Positive phage detected by this assay can then be isolated from the infected plate. Thus, the presence of homologs can be detected and cloned from other animals, as can alternate isoforms (including splicing variants) from humans.

In another embodiment, a panel of monoclonal antibodies may be used, wherein each of the epitope's involved functions are represented by a monoclonal antibody. Loss or perturbation of binding of a monoclonal antibody in the panel would be indicative of a mutational alteration of the protein and thus of the corresponding gene.

C. Differential Expression

The present invention also provides a method to identify abnormal or diseased tissue in a human. For nucleic acids corresponding to profiles of protein families as described above, the choice of tissue may be dictated by the putative biological function. The expression of a gene corresponding to a specific nucleic acid is compared between a first tissue that is suspected of being diseased and a second, normal tissue of the human. The normal tissue is any tissue of the human, especially those that express the target gene including, but not limited to, brain, thymus, testis,

heart, prostate, placenta, spleen, small intestine, skeletal muscle, pancreas, and the mucosal lining of the colon.

The tissue suspected of being abnormal or diseased can be derived from a different tissue type of the human, but preferably it is derived from the same tissue type; for example an intestinal polyp or other abnormal growth should be compared with normal intestinal tissue. A difference between the target gene, mRNA, or protein in the two tissues which are compared, for example in molecular weight, amino acid or nucleotide sequence, or relative abundance, indicates a change in the gene, or a gene which regulates it, in the tissue of the human that was suspected of being diseased.

The target genes in the two tissues are compared by any means known in the art. For example, the two genes are sequenced, and the sequence of the gene in the tissue suspected of being diseased is compared with the gene sequence in the normal tissue. The target genes, or portions thereof, in the two tissues are amplified, for example using nucleotide primers based on the nucleotide sequence shown in the Sequence Listing, using the polymerase chain reaction. The amplified genes or portions of genes are hybridized to nucleotide probes selected from a corresponding nucleotide sequence shown SEQ ID No. 1-850. A difference in the nucleotide sequence of the target gene in the tissue suspected of being diseased compared with the normal nucleotide sequence suggests a role of the nucleic acid-encoded proteins in the disease, and provides a lead for preparing a therapeutic agent. The nucleotide probes are labeled by a variety of methods, such as radiolabeling, biotinylation, or labeling with fluorescent or chemiluminescent tags, and detected by standard methods known in the art.

Alternatively, target mRNA in the two tissues is compared. PolyA⁺ RNA is isolated from the two tissues as is known in the art. For example, one of skill in the art can readily determine differences in the size or amount of target mRNA transcripts between the two tissues using Northern blots and nucleotide probes selected from the nucleotide sequence shown in the Sequence Listing. Increased or decreased expression of a target mRNA in a tissue sample suspected of being diseased, compared with the expression of the same target mRNA in a normal tissue, suggests

that the expressed protein has a role in the disease, and also provides a lead for preparing a therapeutic agent.

Any method for analyzing proteins is used to compare two nucleic acid-encoded proteins from matched samples. The sizes of the proteins in the two tissues are compared, for example, using antibodies of the present invention to detect nucleic acid-encoded proteins in Western blots of protein extracts from the two tissues. Other changes, such as expression levels and subcellular localization, can also be detected immunologically, using antibodies to the corresponding protein. A higher or lower level of nucleic acid-encoded protein expression in a tissue suspected of being diseased, compared with the same nucleic acid-encoded protein expression level in a normal tissue, is indicative that the expressed protein has a role in the disease, and provides another lead for preparing a therapeutic agent.

Similarly, comparison of gene sequences or of gene expression products, e.g., mRNA and protein, between a human tissue that is suspected of being diseased and a normal tissue of a human, are used to follow disease progression or remission in the human. Such comparisons of genes, mRNA, or protein are made as described above.

For example, increased or decreased expression of the target gene in the tissue suspected of being neoplastic can indicate the presence of neoplastic cells in the tissue. The degree of increased expression of the target gene in the neoplastic tissue relative to expression of the gene in normal tissue, or differences in the amount of increased expression of the target gene in the neoplastic tissue over time, is used to assess the progression of the neoplasia in that tissue or to monitor the response of the neoplastic tissue to a therapeutic protocol over time.

The expression pattern of any two cell types can be compared, such as low and high metastatic tumor cell lines, or cells from tissue which have and have not been exposed to a therapeutic agent. A genetic predisposition to disease in a human is detected by comparing an target gene, mRNA, or protein in a fetal tissue with a normal target gene, mRNA, or protein. Fetal tissues that are used for this purpose include, but are not limited to, amniotic fluid, chorionic villi, blood, and the blastomere of an in vitro-fertilized embryo. The comparable normal target gene is obtained from any tissue. The mRNA or protein is obtained from a normal tissue of a human in which the target gene is expressed. Differences such as alterations in the

nucleotide sequence or size of the fetal target gene or mRNA, or alterations in the molecular weight, amino acid sequence, or relative abundance of fetal target protein, can indicate a germline mutation in the target gene of the fetus, which indicates a genetic predisposition to disease.

5

D. Use of Nucleic Acids, and Encoded Polypeptides to Screen for Peptide
Analogues and Antagonists

Polypeptides encoded by the instant nucleic acids, e.g., SEQ ID Nos. 1-850, preferably SEQ ID Nos. 1-383, even more preferably SEQ ID Nos. 1-127, or a
10 sequence complementary thereto, and corresponding full length genes can be used to screen peptide libraries to identify binding partners, such as receptors, from among the encoded polypeptides.

A library of peptides may be synthesized following the methods disclosed in U.S. Pat. No. 5,010,175, and in PCT WO 91/17823. As described below in brief, one
15 prepares a mixture of peptides, which is then screened to identify the peptides exhibiting the desired signal transduction and receptor binding activity. In the '175 method, a suitable peptide synthesis support (e.g., a resin) is coupled to a mixture of appropriately protected, activated amino acids. The concentration of each amino acid in the reaction mixture is balanced or adjusted in inverse proportion to its coupling
20 reaction rate so that the product is an equimolar mixture of amino acids coupled to the starting resin. The bound amino acids are then deprotected, and reacted with another balanced amino acid mixture to form an equimolar mixture of all possible dipeptides. This process is repeated until a mixture of peptides of the desired length (e.g., hexamers) is formed. Note that one need not include all amino acids in each step: one
25 may include only one or two amino acids in some steps (e.g., where it is known that a particular amino acid is essential in a given position), thus reducing the complexity of the mixture. After the synthesis of the peptide library is completed, the mixture of peptides is screened for binding to the selected polypeptide. The peptides are then tested for their ability to inhibit or enhance activity. Peptides exhibiting the desired
30 activity are then isolated and sequenced.

The method described in WO 91/17823 is similar. However, instead of reacting the synthesis resin with a mixture of activated amino acids, the resin is

divided into twenty equal portions (or into a number of portions corresponding to the number of different amino acids to be added in that step), and each amino acid is coupled individually to its portion of resin. The resin portions are then combined, mixed, and again divided into a number of equal portions for reaction with the second amino acid. In this manner, each reaction may be easily driven to completion. Additionally, one may maintain separate "subpools" by treating portions in parallel, rather than combining all resins at each step. This simplifies the process of determining which peptides are responsible for any observed receptor binding or signal transduction activity.

10 In such cases, the subpools containing, *e.g.*, 1-2,000 candidates each are exposed to one or more polypeptides of the invention. Each subpool that produces a positive result is then resynthesized as a group of smaller subpools (sub-subpools) containing, *e.g.*, 20-100 candidates, and reassayed. Positive sub-subpools may be resynthesized as individual compounds, and assayed finally to determine the peptides that exhibit a high binding constant. These peptides can be tested for their ability to inhibit or enhance the native activity. The methods described in WO 91/7823 and U.S. Patent No. 5,194,392 (herein incorporated by reference) enable the preparation of such pools and subpools by automated techniques in parallel, such that all synthesis and resynthesis may be performed in a matter of days.

20 Peptide agonists or antagonists are screened using any available method, such as signal transduction, antibody binding, receptor binding, mitogenic assays, chemotaxis assays, etc. The methods described herein are presently preferred. The assay conditions ideally should resemble the conditions under which the native activity is exhibited *in vivo*, that is, under physiologic pH, temperature, and ionic strength. Suitable agonists or antagonists will exhibit strong inhibition or enhancement of the native activity at concentrations that do not cause toxic side effects in the subject. Agonists or antagonists that compete for binding to the native polypeptide may require concentrations equal to or greater than the native concentration, while inhibitors capable of binding irreversibly to the polypeptide may be added in concentrations on the order of the native concentration.

30 The end results of such screening and experimentation will be at least one novel polypeptide binding partner, such as a receptor, encoded by a nucleic acid of the

invention, and at least one peptide agonist or antagonist of the novel binding partner. Such agonists and antagonists can be used to modulate, enhance, or inhibit receptor function in cells to which the receptor is native, or in cells that possess the receptor as a result of genetic engineering. Further, if the novel receptor shares biologically
5 important characteristics with a known receptor, information about agonist/antagonist binding may help in developing improved agonists/antagonists of the known receptor.

E. Pharmaceutical Compositions and Therapeutic Uses

Pharmaceutical compositions can comprise polypeptides, antibodies, or
10 polynucleotides of the claimed invention. The pharmaceutical compositions will comprise a therapeutically effective amount of either polypeptides, antibodies, or polynucleotides of the claimed invention.

The term "therapeutically effective amount" as used herein refers to an amount of a therapeutic agent to treat, ameliorate, or prevent a desired disease or condition, or
15 to exhibit a detectable therapeutic or preventative effect. The effect can be detected by, for example, chemical markers or antigen levels. Therapeutic effects also include reduction in physical symptoms, such as decreased body temperature. The precise effective amount for a subject will depend upon the subject's size and health, the nature and extent of the condition, and the therapeutics or combination of therapeutics
20 selected for administration. Thus, it is not useful to specify an exact effective amount in advance. However, the effective amount for a given situation can be determined by routine experimentation and is within the judgment of the clinician.

For purposes of the present invention, an effective dose will be from about 0.01 mg/kg to 50 mg/kg or 0.05 mg/kg to about 10 mg/kg of the DNA constructs in
25 the individual to which it is administered.

A pharmaceutical composition can also contain a pharmaceutically acceptable carrier. The term "pharmaceutically acceptable carrier" refers to a carrier for administration of a therapeutic agent, such as antibodies or a polypeptide, genes, and other therapeutic agents. The term refers to any pharmaceutical carrier that does not
30 itself induce the production of antibodies harmful to the individual receiving the composition, and which may be administered without undue toxicity. Suitable carriers may be large, slowly metabolized macromolecules such as proteins,

polysaccharides, polylactic acids, polyglycolic acids, polymeric amino acids, amino acid copolymers, and inactive virus particles. Such carriers are well known to those of ordinary skill in the art.

Pharmaceutically acceptable salts can be used therein, for example, mineral
5 acid salts such as hydrochlorides, hydrobromides, phosphates, sulfates, and the like; and the salts of organic acids such as acetates, propionates, malonates, benzoates, and the like. A thorough discussion of pharmaceutically acceptable excipients is available in *Remington's Pharmaceutical Sciences* (Mack Pub. Co., N.J. 1991).

Pharmaceutically acceptable carriers in therapeutic compositions may contain
10 liquids such as water, saline, glycerol and ethanol. Additionally, auxiliary substances, such as wetting or emulsifying agents, pH buffering substances, and the like, may be present in such vehicles. Typically, the therapeutic compositions are prepared as injectables, either as liquid solutions or suspensions; solid forms suitable for solution in, or suspension in, liquid vehicles prior to injection may also be prepared.
15 Liposomes are included within the definition of a pharmaceutically acceptable carrier.

Delivery Methods

Once formulated, the nucleic acid compositions of the invention can be (1)
administered directly to the subject; (2) delivered ex vivo, to cells derived from the
20 subject; or (3) delivered in vitro for expression of recombinant proteins.

Direct delivery of the compositions will generally be accomplished by
injection, either subcutaneously, intraperitoneally, intravenously or intramuscularly,
or delivered to the interstitial space of a tissue. The compositions can also be
administered into a tumor or lesion. Other modes of administration include oral and
25 pulmonary administration, suppositories, and transdermal applications, needles, and gene guns or hypodermic sprays. Dosage treatment may be a single dose schedule or a multiple dose schedule.

Methods for the ex vivo delivery and reimplantation of transformed cells into a
subject are known in the art and described in e.g., International Publication No. WO
30 93/14778. Examples of cells useful in ex vivo applications include, for example, stem cells, particularly hematopoietic, lymph cells, macrophages, dendritic cells, or tumor cells.

Generally, delivery of nucleic acids for both ex vivo and in vitro applications can be accomplished by, for example, dextran-mediated transfection, calcium phosphate precipitation, polybrene mediated transfection, protoplast fusion, electroporation, encapsulation of the polynucleotide(s) in liposomes, and direct
5 microinjection of the DNA into nuclei, all well known in the art.

Once a subject gene has been found to correlate with a proliferative disorder, such as neoplasia, dysplasia, and hyperplasia, the disorder may be amenable to treatment by administration of a therapeutic agent based on the nucleic acid or corresponding polypeptide.

10 Preparation of antisense polypeptides is discussed above. Neoplasias that are treated with the antisense composition include, but are not limited to, cervical cancers, melanomas, colorectal adenocarcinomas, Wilms' tumor, retinoblastoma, sarcomas, myosarcomas, lung carcinomas, leukemias, such as chronic myelogenous leukemia, promyelocytic leukemia, monocytic leukemia, and myeloid leukemia, and
15 lymphomas, such as histiocytic lymphoma. Proliferative disorders that are treated with the therapeutic composition include disorders such as anhydric hereditary ectodermal dysplasia, congenital alveolar dysplasia, epithelial dysplasia of the cervix, fibrous dysplasia of bone, and mammary dysplasia. Hyperplasias, for example, endometrial, adrenal, breast, prostate, or thyroid hyperplasias or
20 pseudoepitheliomatous hyperplasia of the skin, are treated with antisense therapeutic compositions. Even in disorders in which mutations in the corresponding gene are not implicated, downregulation or inhibition of nucleic acid-related gene expression can have therapeutic application. For example, decreasing nucleic acid-related gene expression can help to suppress tumors in which enhanced expression of the gene is
25 implicated.

Both the dose of the antisense composition and the means of administration are determined based on the specific qualities of the therapeutic composition, the condition, age, and weight of the patient, the progression of the disease, and other relevant factors. Administration of the therapeutic antisense agents of the invention
30 includes local or systemic administration, including injection, oral administration, particle gun or catheterized administration, and topical administration. Preferably, the therapeutic antisense composition contains an expression construct comprising a

promoter and a polynucleotide segment of at least about 12, 22, 25, 30, or 35 contiguous nucleotides of the antisense strand of a nucleic acid. Within the expression construct, the polynucleotide segment is located downstream from the promoter, and transcription of the polynucleotide segment initiates at the promoter.

5 Various methods are used to administer the therapeutic composition directly to a specific site in the body. For example, a small metastatic lesion is located and the therapeutic composition injected several times in several different locations within the body of tumor. Alternatively, arteries which serve a tumor are identified, and the therapeutic composition injected into such an artery, in order to deliver the
10 composition directly into the tumor. A tumor that has a necrotic center is aspirated and the composition injected directly into the now empty center of the tumor. The antisense composition is directly administered to the surface of the tumor, for example, by topical application of the composition. X-ray imaging is used to assist in certain of the above delivery methods.

15 Receptor-mediated targeted delivery of therapeutic compositions containing an antisense polynucleotide, subgenomic polynucleotides, or antibodies to specific tissues is also used. Receptor-mediated DNA delivery techniques are described in, for example, Findeis *et al.*, *Trends in Biotechnol.* (1993) 11:202-205; Chiou *et al.*, (1994) *Gene Therapeutics: Methods And Applications Of Direct Gene Transfer* (J.A. Wolff,
20 ed.); Wu & Wu, *J. Biol. Chem.* (1988) 263:621-24; Wu *et al.*, *J. Biol. Chem.* (1994) 269:542-46; Zenke *et al.*, *Proc. Natl. Acad. Sci. (USA)* (1990) 87:3655-59; Wu *et al.*, *J. Biol. Chem.* (1991) 266:338-42. Preferably, receptor-mediated targeted delivery of therapeutic compositions containing antibodies of the invention is used to deliver the antibodies to specific tissue.

25 Therapeutic compositions containing antisense subgenomic polynucleotides are administered in a range of about 100 ng to about 200 mg of DNA for local administration in a gene therapy protocol. Concentration ranges of about 500 ng to about 50 mg, about 1 mg to about 2 mg, about 5 mg to about 500 mg, and about 20
30 mg to about 100 mg of DNA can also be used during a gene therapy protocol. Factors such as method of action and efficacy of transformation and expression are considerations which will affect the dosage required for ultimate efficacy of the antisense subgenomic nucleic acids. Where greater expression is desired over a larger

area of tissue, larger amounts of antisense subgenomic nucleic acids or the same amounts readministered in a successive protocol of administrations, or several administrations to different adjacent or close tissue portions of, for example, a tumor site, may be required to effect a positive therapeutic outcome. In all cases, routine experimentation in clinical trials will determine specific ranges for optimal therapeutic effect. A more complete description of gene therapy vectors, especially retroviral vectors, is contained in U.S. Serial No. 08/869,309, which is expressly incorporated herein, and in section F below.

For genes encoding polypeptides or proteins with anti-inflammatory activity, suitable use, doses, and administration are described in U.S. Patent No. 5,654,173, incorporated herein by reference. Therapeutic agents also include antibodies to proteins and polypeptides encoded by the subject nucleic acids, as described in U.S. Patent No. 5,654,173.

F. Gene Therapy

The therapeutic nucleic acids of the present invention may be utilized in gene delivery vehicles. The gene delivery vehicle may be of viral or non-viral origin (see generally, Jolly, *Cancer Gene Therapy* (1994) 1:51-64; Kimura, *Human Gene Therapy* (1994) 5:845-852; Connelly, *Human Gene Therapy* (1995) 1:185-193; and Kaplitt, *Nature Genetics* (1994) 6:148-153). Gene therapy vehicles for delivery of constructs including a coding sequence of a therapeutic of the invention can be administered either locally or systemically. These constructs can utilize viral or non-viral vector approaches. Expression of such coding sequences can be induced using endogenous mammalian or heterologous promoters. Expression of the coding sequence can be either constitutive or regulated.

The present invention can employ recombinant retroviruses which are constructed to carry or express a selected nucleic acid molecule of interest. Retrovirus vectors that can be employed include those described in EP 0 415 731; WO 90/07936; WO 94/03622; WO 93/25698; WO 93/25234; U.S. Patent No. 5, 219,740; WO 93/11230; WO 93/10218; Vile and Hart, *Cancer Res.* (1993) 53:3860-3864; Vile and Hart, *Cancer Res.* (1993) 53:962-967; Ram et al., *Cancer Res.* (1993) 53:83-88; Takamiya et al., *J. Neurosci. Res.* (1992) 33:493-503; Baba et al., *J. Neurosurg.*

(1993) 79:729-735; U.S. Patent no. 4,777,127; GB Patent No. 2,200,651; and EP 0 345 242. Preferred recombinant retroviruses include those described in WO 91/02805.

Packaging cell lines suitable for use with the above-described retroviral vector
5 constructs may be readily prepared (see PCT publications WO 95/30763 and WO 92/05266), and used to create producer cell lines (also termed vector cell lines) for the production of recombinant vector particles. Within particularly preferred embodiments of the invention, packaging cell lines are made from human (such as HT1080 cells) or mink parent cell lines, thereby allowing production of recombinant
10 retroviruses that can survive inactivation in human serum.

The present invention also employs alphavirus-based vectors that can function as gene delivery vehicles. Such vectors can be constructed from a wide variety of alphaviruses, including, for example, Sindbis virus vectors, Semliki forest virus (ATCC VR-67; ATCC VR-1247), Ross River virus (ATCC VR-373; ATCC VR-
15 1246) and Venezuelan equine encephalitis virus (ATCC VR-923; ATCC VR-1250; ATCC VR 1249; ATCC VR-532). Representative examples of such vector systems include those described in U.S. Patent Nos. 5,091,309; 5,217,879; and 5,185,440; and PCT Publication Nos. WO 92/10578; WO 94/21792; WO 95/27069; WO 95/27044; and WO 95/07994.

20 Gene delivery vehicles of the present invention can also employ parvovirus such as adeno-associated virus (AAV) vectors. Representative examples include the AAV vectors disclosed by Srivastava in WO 93/09239, Samulski et al., *J. Vir.* (1989) 63:3822-3828; Mendelson et al., *Virol.* (1988) 166:154-165; and Flotte et al., *PNAS* (1993) 90:10613-10617.

25 Representative examples of adenoviral vectors include those described by Berkner, *Biotechniques* (1988) 6:616-627; Rosenfeld et al., *Science* (1991) 252:431-434; WO 93/19191; Kolls et al., *PNAS* (1994) 91:215-219; Kass-Eisler et al., *PNAS* (1993) 90:11498-11502; Guzman et al., *Circulation* (1993) 88:2838-2848; Guzman et al., *Cir. Res.* (1993) 73:1202-1207; Zabner et al., *Cell* (1993) 75:207-216; Li et al.,
30 *Hum. Gene Ther.* (1993) 4:403-409; Cailaud et al., *Eur. J. Neurosci.* (1993) 5:1287-1291; Vincent et al., *Nat. Genet.* (1993) 5:130-134; Jaffe et al., *Nat. Genet.* (1992) 1:372-378; and Levrero et al., *Gene* (1991) 101:195-202. Exemplary adenoviral gene

therapy vectors employable in this invention also include those described in WO 94/12649, WO 93/03769; WO 93/19191; WO 94/28938; WO 95/11984 and WO 95/00655. Administration of DNA linked to killed adenovirus as described in Curiel, *Hum. Gene Ther.* (1992) 3:147-154 may be employed.

5 Other gene delivery vehicles and methods may be employed, including polycationic condensed DNA linked or unlinked to killed adenovirus alone, for example Curiel, *Hum. Gene Ther.* (1992) 3:147-154; ligand linked DNA, for example see Wu, *J. Biol. Chem.* (1989) 264:16985-16987; eukaryotic cell delivery vehicles cells, for example see U.S. Serial No. 08/240,030, filed May 9, 1994, and U.S. Serial
10 No. 08/404,796; deposition of photopolymerized hydrogel materials; hand-held gene transfer particle gun, as described in U.S. Patent No. 5,149,655; ionizing radiation as described in U.S. Patent No. 5,206,152 and in WO92/11033; nucleic charge neutralization or fusion with cell membranes. Additional approaches are described in Philip, *Mol. Cell Biol.* (1994) 14:2411-2418, and in Woffendin, *Proc. Natl. Acad. Sci.*
15 (1994) 91:1581-1585.

Naked DNA may also be employed. Exemplary naked DNA introduction methods are described in WO 90/11092 and U.S. Patent No. 5,580,859. Uptake efficiency may be improved using biodegradable latex beads. DNA coated latex beads are efficiently transported into cells after endocytosis initiation by the beads.
20 The method may be improved further by treatment of the beads to increase hydrophobicity and thereby facilitate disruption of the endosome and release of the DNA into the cytoplasm. Liposomes that can act as gene delivery vehicles are described in U.S. Patent No. 5,422,120, PCT Nos. WO 95/13796, WO 94/23697, and WO 91/14445, and EP No. 0 524 968.

25 Further non-viral delivery suitable for use includes mechanical delivery systems such as the approach described in Woffendin *et al.*, *Proc. Natl. Acad. Sci. USA* (1994) 91(24):11581-11585. Moreover, the coding sequence and the product of expression of such can be delivered through deposition of photopolymerized hydrogel materials. Other conventional methods for gene delivery that can be used for delivery
30 of the coding sequence include, for example, use of hand-held gene transfer particle gun, as described in U.S. Patent No. 5,149,655; use of ionizing radiation for activating

transferred gene, as described in U.S. Patent No. 5,206,152 and PCT No. WO 92/11033.

G. Transgenic Animals

5 One aspect of the present invention relates to transgenic non-human animals having germline and/or somatic cells in which the biological activity of one or more genes are altered by a chromosomally incorporated transgene.

In a preferred embodiment, the transgene encodes a mutant protein, such as dominant negative protein which antagonizes at least a portion of the biological
10 function of a wild-type protein.

Yet another preferred transgenic animal includes a transgene encoding an antisense transcript which, when transcribed from the transgene, hybridizes with a gene or a mRNA transcript thereof, and inhibits expression of the gene.

In one embodiment, the present invention provides a desired non-human
15 animal or an animal (including human) cell which contains a predefined, specific and desired alteration rendering the non-human animal or animal cell predisposed to cancer. Specifically, the invention pertains to a genetically altered non-human animal (most preferably, a mouse), or a cell (either non-human animal or human) in culture, that is defective in at least one of two alleles of a tumor-suppressor gene. The
20 inactivation of at least one of these tumor suppressor alleles results in an animal with a higher susceptibility to tumor induction or other proliferative or differentiative disorders, or disorders marked by aberrant signal transduction, e.g., from a cytokine or growth factor. A genetically altered mouse of this type is able to serve as a useful model for hereditary cancers and as a test animal for carcinogen studies. The
25 invention additionally pertains to the use of such non-human animals or animal cells, and their progeny in research and medicine.

Furthermore, it is contemplated that cells of the transgenic animals of the present invention can include other transgenes, e.g., which alter the biological activity of a second tumor suppressor gene or an oncogene. For instance, the second
30 transgene can functionally disrupt the biological activity of a second tumor suppressor gene, such as p53, p73, DCC, p21^{cip1}, p27^{kip1}, Rb, Mad or E2F. Alternatively, the second transgene can cause overexpression or loss of regulation of an oncogene, such

as ras, myc, a cdc25 phosphatase, Bcl-2, Bcl-6, a transforming growth factor, neu, int-3, polyoma virus middle T antigen, SV40 large T antigen, a papillomaviral E6 protein, a papillomaviral E7 protein, CDK4, or cyclin D1.

5 A preferred transgenic non-human animal of the present invention has germline and/or somatic cells in which one or more alleles of a gene are disrupted by a chromosomally incorporated transgene, wherein the transgene includes a marker sequence providing a detectable signal for identifying the presence of the transgene in cells of the transgenic animal, and replaces at least a portion of the gene or is inserted into the gene or disrupts expression of a wild-type protein.

10 Still another aspect of the present invention relates to methods for generating non-human animals and stem cells having a functionally disrupted endogenous gene. In a preferred embodiment, the method comprises the steps of:

- 15 (i) constructing a transgene construct including (a) a recombination region having at least a portion of the gene, which recombination region directs recombination of the transgene with the gene, and (b) a marker sequence which provides a detectable signal for identifying the presence of the transgene in a cell;
- (ii) transferring the transgene into stem cells of a non-human animal;
- (iii) selecting stem cells having a correctly targeted homologous recombination
20 between the transgene and the gene;
- (iv) transferring cells identified in step (iii) into a non-human blastocyst and implanting the resulting chimeric blastocyst into a non-human female; and
- (v) collecting offspring harboring an endogenous gene allele having the correctly targeted recombination.

25 Yet another aspect of the invention provides a method for evaluating the carcinogenic potential of an agent by (i) contacting a transgenic animal of the present invention with a test agent, and (ii) comparing the number of transformed cells in a sample from the treated animal with the number of transformed cells in a sample from an untreated transgenic animal or transgenic animal treated with a control agent. The
30 difference in the number of transformed cells in the treated animal, relative to the number of transformed cells in the absence of treatment with a control agent, indicates the carcinogenic potential of the test compound.

Another aspect of the invention provides a method of evaluating an anti-proliferative activity of a test compound. In preferred embodiments, the method includes contacting a transgenic animal of the present invention, or a sample of cells from such animal, with a test agent, and determining the number of transformed cells in a specimen from the transgenic animal or in the sample of cells. A statistically significant decrease in the number of transformed cells, relative to the number of transformed cells in the absence of the test agent, indicates the test compound is a potential anti-proliferative agent.

The practice of the present invention will employ, unless otherwise indicated, conventional techniques of cell biology, cell culture, molecular biology, transgenic biology, microbiology, recombinant DNA, and immunology, which are within the skill of the art. Such techniques are explained fully in the literature. See, for example, *Molecular Cloning A Laboratory Manual*, 2nd Ed., ed. by Sambrook, Fritsch and Maniatis (Cold Spring Harbor Laboratory Press:1989); *DNA Cloning*, Volumes I and II (D. N. Glover ed., 1985); *Oligonucleotide Synthesis* (M. J. Gait ed., 1984); Mullis *et al.* U.S. Patent No. 4,683,195; *Nucleic Acid Hybridization* (B. D. Hames & S. J. Higgins eds. 1984); *Transcription And Translation* (B. D. Hames & S. J. Higgins eds. 1984); *Culture Of Animal Cells* (R. I. Freshney, Alan R. Liss, Inc., 1987); *Immobilized Cells And Enzymes* (IRL Press, 1986); B. Perbal, *A Practical Guide To Molecular Cloning* (1984); the treatise, *Methods In Enzymology* (Academic Press, Inc., N.Y.); *Gene Transfer Vectors For Mammalian Cells* (J. H. Miller and M. P. Calos eds., 1987, Cold Spring Harbor Laboratory); *Methods In Enzymology*, Vols. 154 and 155 (Wu et al. eds.), *Immunochemical Methods In Cell And Molecular Biology* (Mayer and Walker, eds., Academic Press, London, 1987); *Handbook Of Experimental Immunology*, Volumes I-IV (D. M. Weir and C. C. Blackwell, eds., 1986); *Manipulating the Mouse Embryo*, (Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y., 1986).

As mentioned above, the sequences described herein are believed to have particular utility in regards to colon cancer. However, they may also be useful with other types of cancers and other disease states.

The present invention will now be illustrated by reference to the following examples which set forth particularly advantageous embodiments. However, it should

be noted that these embodiments are illustrative and are not to be construed as restricting the invention in any way.

XI. Examples

5 A. Identification of differentially expressed sequences in the SW480 library

Description of the SW480 library

SEQ ID NO 1-850 were derived from the SW480 library. The SW480 library is a normalized, subtracted cDNA library that was generated from the RNA derived
10 from colon cancer cell line SW480 and normal human colon tissue. Human colorectal adenocarcinoma (cancer) cell line SW480; ATCC #CCL228 (Leibovitz et al., Cancer Research 36:4562-4569, 1976) was used to generate double-stranded cDNA that was subsequently used as the tester sample for the subtraction experiment. Poly A⁺ RNA
15 from normal human colon tissue (purchased from OriGene Technologies, Inc. Rockville, MD) was used was used to generate double-stranded cDNA that was used as the driver sample for the subtraction experiment.

The growth conditions of the driver and tester sources in this library were different as SW480 is a rapidly growing cell line and may have higher cellular metabolism. Therefore
20 some of the differential expression in this library might be due to non-relevant growth effects of the two sources of tissue.

Construction of the SW480 library

Double-stranded cDNA was generated using the Clontech SMART PCR cDNA
25 Synthesis Kit (purchased from Clontech Laboratories Inc, Palo Alto, CA) following the manufacturer's instructions. Subtraction hybridization steps were performed in accordance with the manufacturer's instructions for the Clontech PCR-Select kit (purchased from Clontech Laboratories Inc, Palo Alto, CA). The subtracted cDNAs were then directly inserted into a T/A cloning vector (TOPO TA Cloning Kit, Invitrogen Corporation, Carlsbad, CA)
30 according to manufacturer's instructions, transformed into *E. coli*, and plated onto LB-amp plates, containing X-gal and IPTG. 1248 bacterial colonies were picked, transferred to LB-

amp broth and propagated. Plasmids were isolated using column chromatography (QIAprep 96 Turbo Miniprep Kits, Qiagen Corporation, Valencia, CA) on the QIAGEN Biorobot 9600.

Initial validation of differential expression

5

The inserts from subtracted clones were amplified by PCR and 10ul of the PCR reaction product was run on a 2.0% agarose gel for 2 hr at 100 volts. The gel was blotted onto a nylon membrane according to standard methods and hybridized as follows: 50 ng aliquots of the RSA1 cut SW480 and normal colon cDNA libraries were labeled with [α - 32 P] dCTP by Prime-It RmT Random Primer labeling kit (Stratagene, La Jolla, CA). Nylon membranes containing the PCR amplified DNA from the SW480 library clones were hybridized to the labeled probes at 4×10^6 cpm/ml in Express hybridization buffer (Clontech) at 68°C for approximately 16 hours. The membranes were subjected to stringent washes (0.1 X SSC; 0.1% SDS) done at 68°C and were then exposed to phosphorimager screens. The screens were analyzed using Molecular Dynamics ImageQuant software. Clones that exhibited a stronger hybridization signal with the SW480 probe relative to the normal colon probe were deemed to be differentially expressed.

Validation of differential expression in colon cancer

20

To validate that the differentially expressed sequences found in this library were specific to colon cancer, the clones were screened with cDNAs prepared from a colon cancer specific library, Delaware (DE), and a normal tissue specific library Maryland (MD).

The DE library is specific for sequences expressed in colon cancer [proximal and distal Dukes' B, microsatellite instability negative (MSI-)] but not expressed in normal tissues, including colon. This colon cancer tissue specific cDNA library, was made using pooled colon cancer cDNA as tester (tumor tissue cDNA pooled from eight patients with either proximal stage B MSI⁻ or distal stage B MSI⁻ cancers). The driver cDNA consisted a combination of cDNAs made from 50% normal colon tissue and a pool of peripheral blood leukocytes (PBL), and normal liver, spleen, lung, kidney, heart, small intestine, skeletal muscle, and prostate tissue cDNAs as the remaining 50% of the driver.

The MD library is specific for sequences expressed in normal tissue, but not expressed in proximal and distal Dukes' B, MSI- colon cancers. The tester cDNA in this case was made up of 50% normal colon tissue cDNA while the other 50% was made up of PBL, liver, spleen, lung, kidney, heart, small intestine, skeletal muscle, and prostate tissue cDNAs. The driver for this library was generated from pools of proximal stage B, MSI- and distal stage B, MSI- tumor tissue cDNAs obtained from eight cancer patients.

SW 480 clones that hybridized with the DE probe, but hybridized to a lesser degree (or not at all) to the MD probe were determined to be differentially expressed. This confirmation of differential expression is additional evidence that the up regulation of the individual clones is related to colon cancer.

Sequencing and analysis of differentially expressed clones

The nucleotide sequence of the inserts from clones shown to be differentially expressed was determined by single-pass sequencing from either the T7 or M13 promoter sites using fluorescently labeled dideoxynucleotides via the Sanger sequencing method. Sequences were analyzed according to methods described in the text (XI., Examples; B. Results of Public Database Search).

Each nucleic acid represents sequence from at least a partial mRNA transcript. The nucleic acids of the invention were assigned a sequence identification number (see attachments). The DNA sequences are provided in the attachments containing the sequences.

Of the 1248 colonies examined, 826 individual clones were found to be differentially expressed using the SW480 and normal colon probes. Of these, 681 were found to be differentially expressed using the DE and MD tissue probes. 145 clones that previously showed differential expression with the SW480 and normal colon probes did not show differential expression with the DE and MD probes. 363 of these clones contained known sequences, 213 contained ESTs, and 105 contained novel sequences. An examination of the known sequences revealed that many of the genes are involved in cellular metabolism.

An example of an experiment to identify differentially expressed clones is shown in the Figure, "Differential Expression Analysis". The inserts from subtracted clones were amplified, electrophoresed, and blotted on to membranes as described above. The gel was hybridized with RSA1 cut DE and MD cDNA probes as
5 described above.

In the Figure, individual clones are designated by a number at the top of each lane; the blots are aligned so that the same clone is represented in the same vertical lane in both the upper ("Cancer Probe") and lower ("Normal Probe") blot. Lanes
10 labeled "O" indicate clones that are overexpressed, i.e., show a darker, more prominent band in the upper blot ("Cancer Probe") relative to that observed, in the same lane, in the lower blot ("Normal Probe"). The Lane labeled "U" indicates a clone that is underexpressed, i.e., shows a darker, more prominent band in the lower blot ("Normal Probe") relative to that observed, in the same lane, in the upper blot
15 ("Cancer Probe"). The lane labeled "M", indicates a clone that is marginally overexpressed in cancer and normal cells.

B. Results of Public Database searches

The nucleotide sequence of SEQ ID Nos. 1-850 were aligned with individual
20 sequences that were publicly available. Genbank and divisions of GenBank, such as dbEST, CGAP, and Unigene were the primary databases used to perform the sequence similarity searches. The patent database, GENESEQ, was also utilized.

A total of 850 sequences were analyzed; most sequences were between 200 and 700 nucleotides in length. The sequences were first masked to identify vector-
25 derived sequences, which were subsequently removed. The remaining sequence information was used to create the sequences listed in the Sequence Listing (SEQ ID Nos. 1-850). Each of these sequences was used as the query sequence to perform a Blast 2 search against the databases listed above. The Blast 2 search differs from the traditional Blast search in that it allows for the introduction of gaps in order to
30 produce an optimal alignment of two sequences.

A proprietary algorithm was developed to utilize the output from the Blast 2 searches and categorize the sequences based upon high similarity (e value < 1e-40) or

identity to entries contained in the GenBank and dbEST databases. Three categories were created as follows: 1) matches to known human genes, 2) matches to human EST sequences, and 3) no significant match to either 1 or 2, and therefore a potentially novel human sequence.

5

Those skilled in the art will recognize, or be able to ascertain, using not more than routine experimentation, many equivalents to the specific embodiments of the invention described herein. Such specific embodiments and equivalents are intended
10 to be encompassed by the following claims.

All patents, published patent applications, and publications cited herein are incorporated by reference as if set forth fully herein.

Table 1

SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes	SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes
1	SW0006	O	O	47	SW0558	O	O
2	SW0019M13	O	O	48	SW0585T7	O	O
3	SW0025T7	O	O	49	SW0602T7	O	O
4	SW0026T7	O	O	50	SW0605T7	O	O
5	SW0044	O	O	51	SW0638M13	O	O
6	SW0071	O	O	52	SW0638T7	O	O
7	SW0081T7	O	O	53	SW0652T7	O	O
8	SW0106	O	O	54	SW0659	O	O
9	SW0116	O	O	55	SW0663T7	M	O
10	SW0124	O	O	56	SW0678T7	O	O
11	SW0142M13	O	O	57	SW0682T7	O	M
12	SW0142T7	O	O	58	SW0684	O	O
13	SW0162T7	M	N	59	SW0693T7	M	O
14	SW0181T7	O	O	60	SW0704M13	O	O
15	SW0184	M	O	61	SW0704T7	O	O
16	SW0208T7	O	O	62	SW0709M13	O	O
17	SW0212M13	O	O	63	SW0709T7	O	O
18	SW0212T7	O	O	64	SW0730T7	O	O
19	SW0249	M	O	65	SW0749T7	O	O
20	SW0277	O	O	66	SW0758T7	M	O
21	SW0292	O	O	67	SW0766	O	O
22	SW0305T7	M	O	68	SW0796M13	M	O
23	SW0306	O	O	69	SW0797T7	O	O
24	SW0328	M	O	70	SW0799T7	O	O
25	SW0337	O	O	71	SW0800T7	M	O
26	SW0345	O	O	72	SW0815T7	M	O
27	SW0348	M	O	73	SW0824M13	N	O
28	SW0353	O	O	74	SW0824T7	N	O
29	SW0389T7	O	O	75	SW0837	O	O
30	SW0392T7	M	O	76	SW0843T7	N	O
31	SW0402T7	O	O	77	SW0852	M	O
32	SW0410T7	M	O	78	SW0906T7	O	O
33	SW0411T7	M	M	79	SW0925	N	O
34	SW0433	O	O	80	SW0926T7	O	O
35	SW0445T7	O	O	81	SW0931T7	M	O
36	SW0450T7	O	M	82	SW0932	M	O
37	SW0464	O	O	83	SW0961T7	O	N
38	SW0466	M	O	84	SW0962	O	O
39	SW0469T7	M	O	85	SW0971	O	O
40	SW0489T7	O	O	86	SW0973T7	M	M
41	SW0498	O	O	87	SW0985	O	O
42	SW0511M13	O	O	88	SW1000M13	O	O
43	SW0511T7	O	O	89	SW1000T7	O	O
44	SW0519T7	O	M	90	SW1015T7	O	O
45	SW0522	O	O	91	SW1032T7	O	O
46	SW0539	O	O	92	SW1051	O	O

SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes	SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes
93	SW1052	O	O	142	SW0082T7	O	O
94	SW1053	O	O	143	SW0091T7	O	O
95	SW1059T7	O	O	144	SW0093T7	O	O
96	SW1067	M	O	145	SW0101M13	O	O
97	SW1068M13	O	O	146	SW0101T7	O	O
98	SW1068T7	O	O	147	SW0102T7	O	O
99	SW1085T7	M	O	148	SW0105T7	O	O
100	SW1086M13	M	O	149	SW0108T7	O	M
101	SW1086T7	M	O	150	SW0111T7	O	O
102	SW1088M13	O	O	151	SW0112T7	O	O
103	SW1088T7	O	O	152	SW0117T7	O	O
104	SW1089M13	O	O	153	SW0119T7	O	O
105	SW1089T7	O	O	154	SW0122T7	M	O
106	SW1093T7	O	O	155	SW0131T7	O	O
107	SW1098	O	O	156	SW0132T7	O	O
108	SW1115	O	O	157	SW0144T7	M	O
109	SW1116M13	O	O	158	SW0146T7	M	O
110	SW1116T7	O	O	159	SW0156T7	O	O
111	SW1122	O	O	160	SW0160T7	O	O
112	SW1138M13	O	O	161	SW0163T7	O	O
113	SW1138T7	O	O	162	SW0166T7	O	O
114	SW1139M13	O	O	163	SW0175T7	M	O
115	SW1139T7	O	O	164	SW0177M13	O	O
116	SW1144M13	O	O	165	SW0182T7	O	O
117	SW1144T7	O	O	166	SW0185T7	O	O
118	SW1145M13	M	O	167	SW0189T7	O	O
119	SW1187T7	O	O	168	SW0191T7	O	O
120	SW1195M13	M	O	169	SW0195T7	O	O
121	SW1195T7	M	O	170	SW0202T7	O	O
122	SW1209T7	M	N	171	SW0203T7	O	O
123	SW1225M13	O	O	172	SW0213T7	O	N
124	SW1225T7	O	O	173	SW0224T7	O	O
125	SW1227M13	M	O	174	SW0229T7	O	O
126	SW1227T7	M	O	175	SW0231M13	O	O
127	SW1242	M	O	176	SW0241T7	O	O
128	SW0004M13	O	O	177	SW0242T7	O	O
129	SW0004T7	O	O	178	SW0246T7	O	O
130	SW0011M13	O	O	179	SW0248T7	O	O
131	SW0011T7	O	O	180	SW0254T7	O	O
132	SW0015T7	O	O	181	SW0260T7	M	M
133	SW0024T7	M	O	182	SW0264T7	O	O
134	SW0026M13	O	O	183	SW0267T7	M	O
135	SW0026T7	O	O	184	SW0269T7	O	O
136	SW0033T7	O	O	185	SW0271T7	O	O
137	SW0038T7	M	O	186	SW0273T7	O	O
138	SW0069T7	O	O	187	SW0280T7	O	O
139	SW0073T7	O	O	188	SW0281T7	O	O
140	SW0076T7	O	O	189	SW0291T7	O	O
141	SW0078T7	O	O	190	SW0294T7	O	O

SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes	SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes
191	SW0295T7	O	O	240	SW0575T7	O	O
192	SW0296T7	O	O	241	SW0577T7	O	O
193	SW0297T7	O	O	242	SW0583T7	O	O
194	SW0301T7	O	O	243	SW0604T7	O	O
195	SW0310T7	O	O	244	SW0605M13	O	O
196	SW0311M13	O	O	245	SW0609T7	M	O
197	SW0325T7	O	O	246	SW0610M13	M	O
198	SW0326T7	O	O	247	SW0610T7	M	O
199	SW0330T7	M	O	248	SW0613T7	O	M
200	SW0334T7	O	N	249	SW0621T7	O	O
201	SW0339T7	O	O	250	SW0633T7	O	O
202	SW0341T7	O	O	251	SW0647T7	O	O
203	SW0358T7	O	O	252	SW0654M13	M	O
204	SW0359T7	M	O	253	SW0658T7	M	O
205	SW0360T7	O	O	254	SW0662T7	O	O
206	SW0361M13	O	O	255	SW0663M13	M	O
207	SW0367T7	O	O	256	SW0668T7	O	O
208	SW0369T7	O	O	257	SW0672T7	O	O
209	SW0394T7	O	O	258	SW0674T7	O	N
210	SW0399T7	O	O	259	SW0676T7	O	M
211	SW0401T7	O	O	260	SW0677T7	O	O
212	SW0403T7	O	O	261	SW0678M13	O	O
213	SW0412T7	M	O	262	SW0681T7	O	M
214	SW0419T7	O	O	263	SW0683T7	O	M
215	SW0429T7	M	M	264	SW0687T7	O	M
216	SW0434T7	O	O	265	SW0688T7	O	O
217	SW0441T7	O	O	266	SW0692T7	O	N
218	SW0446T7	O	O	267	SW0694T7	O	O
219	SW0454T7	O	O	268	SW0697T7	O	O
220	SW0461T7	O	O	269	SW0710T7	O	O
221	SW0468T7	O	O	270	SW0711T7	O	O
222	SW0484T7	O	U	271	SW0713T7	N	M
223	SW0489M13	O	U	272	SW0724T7	M	U
224	SW0496T7	O	U	273	SW0734T7	M	O
225	SW0499T7	O	O	274	SW0736T7	N	M
226	SW0507T7	O	M	275	SW0744T7	O	O
227	SW0514T7	O	M	276	SW0751T7	O	O
228	SW0520T7	O	M	277	SW0753T7	O	O
229	SW0531T7	M	N	278	SW0763T7	O	O
230	SW0537T7	M	N	279	SW0768T7	M	M
231	SW0548T7	O	U	280	SW0770T7	O	M
232	SW0555T7	O	N	281	SW0772T7	O	N
233	SW0557T7	O	N	282	SW0774T7	M	O
234	SW0560T7	O	N	283	SW0778T7	M	M
235	SW0563T7	O	U	284	SW0779T7	M	M
236	SW0570T7	O	O	285	SW0783T7	O	O
237	SW0572T7	O	M	286	SW0784T7	O	M
238	SW0573T7	M	U	287	SW0786T7	N	O
239	SW0574T7	O	O	288	SW0787T7	O	N

SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes	SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes
289	SW0797M13	O	O	338	SW1065T7	O	O
290	SW0803T7	O	O	339	SW1080T7	M	M
291	SW0809T7	O	N	340	SW1085M13	M	O
292	SW0811T7	M	N	341	SW1087T7	O	O
293	SW0815M13	M	O	342	SW1091T7	O	O
294	SW0821T7	O	O	343	SW1093M13	O	O
295	SW0825T7	M	M	344	SW1097T7	O	O
296	SW0826T7	M	M	345	SW1104T7	O	O
297	SW0827M13	O	O	346	SW1105T7	O	O
298	SW0828T7	O	M	347	SW1106T7	O	O
299	SW0836T7	M	O	348	SW1107T7	O	O
300	SW0839T7	O	M	349	SW1108T7	O	O
301	SW0843M13	N	O	350	SW1109T7	O	O
302	SW0846M13	O	M	351	SW1114T7	O	O
303	SW0847T7	O	M	352	SW1123T7	O	O
304	SW0849T7	M	M	353	SW1124T7	O	O
305	SW0850T7	O	O	354	SW1130T7	M	O
306	SW0855T7	O	O	355	SW1131T7	M	O
307	SW0863T7	M	M	356	SW1132T7	M	O
308	SW0866T7	O	O	357	SW1133M13	M	O
309	SW0867T7	N	O	358	SW1134T7	O	O
310	SW0896M13	N	O	359	SW1136T7	O	N
311	SW0912T7	O	O	360	SW1141T7	M	O
312	SW0914T7	O	O	361	SW1146T7	M	O
313	SW0916T7	O	O	362	SW1147T7	O	O
314	SW0918T7	O	O	363	SW1155T7	O	N
315	SW0921T7	N	O	364	SW1156T7	O	N
316	SW0923T7	O	O	365	SW1160T7	O	N
317	SW0926M13	O	O	366	SW1161T7	O	N
318	SW0928T7	N	M	367	SW1169T7	O	N
319	SW0947T7	O	O	368	SW1176T7	O	O
320	SW0949T7	O	O	369	SW1182T7	O	O
321	SW0954T7	M	O	370	SW1193T7	O	O
322	SW0964T7	M	N	371	SW1201T7	O	O
323	SW0969T7	M	N	372	SW1203T7	O	O
324	SW0972T7	M	N	373	SW1212T7	O	M
325	SW0982T7	O	M	374	SW1213M13	O	M
326	SW0994T7	O	N	375	SW1214T7	O	N
327	SW0998T7	O	N	376	SW1218T7	O	N
328	SW1001T7	O	O	377	SW1220T7	O	N
329	SW1002T7	O	N	378	SW1232T7	O	N
330	SW1012T7	O	O	379	SW1236M13	O	N
331	SW1018T7	O	M	380	SW1238T7	O	O
332	SW1045T7	O	M	381	SW1239T7	O	O
333	SW1046T7	M	O	382	SW1245M13	M	N
334	SW1058T7	O	O	383	SW1247T7	O	O
335	SW1059M13	O	O	384	SW0003T7	O	O
336	SW1061T7	O	O	385	SW0009T7	O	O
337	SW1064T7	O	O	386	SW0012T7	O	O

SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes	SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes
387	SW0013T7	O	O	436	SW0158T7	O	O
388	SW0015T7	O	O	437	SW0159T7	O	O
389	SW0016T7	U	N	438	SW0169T7	O	O
390	SW0018T7	O	O	439	SW0170T7	O	O
391	SW0019T7	O	O	440	SW0171T7	O	O
392	SW0023T7	O	O	441	SW0173T7	O	O
393	SW0025T7	O	O	442	SW0178T7	O	O
394	SW0027T7	O	O	443	SW0179T7	O	O
395	SW0029M13	O	O	444	SW0180T7	O	O
396	SW0030T7	O	O	445	SW0183T7	O	N
397	SW0039T7	O	O	446	SW0186T7	M	M
398	SW0043T7	O	O	447	SW0187T7	M	U
399	SW0046T7	O	O	448	SW0188T7	O	O
400	SW0048T7	O	O	449	SW0190T7	O	O
401	SW0050T7	O	O	450	SW0192T7	O	O
402	SW0052T7	O	O	451	SW0196T7	O	O
403	SW0063T7	O	O	452	SW0199T7	O	O
404	SW0064T7	O	O	453	SW0201T7	O	M
405	SW0068T7	O	N	454	SW0204T7	O	M
406	SW0072T7	O	O	455	SW0205T7	O	N
407	SW0074T7	O	N	456	SW0206T7	O	O
408	SW0075T7	O	O	457	SW0207T7	O	M
409	SW0077T7	O	O	458	SW0210T7	O	O
410	SW0080T7	O	O	459	SW0211T7	O	O
411	SW0081T7	O	O	460	SW0214T7	O	O
412	SW0085T7	O	O	461	SW0217T7	O	O
413	SW0088T7	O	O	462	SW0218T7	O	O
414	SW0090T7	O	O	463	SW0220T7	O	O
415	SW0095T7	O	O	464	SW0223T7	O	O
416	SW0103T7	M	O	465	SW0229T7	O	O
417	SW0104T7	M	O	466	SW0237T7	O	O
418	SW0121T7	O	N	467	SW0244T7	O	O
419	SW0123T7	O	O	468	SW0247T7	O	O
420	SW0125T7	O	O	469	SW0250T7	O	O
421	SW0127T7	O	O	470	SW0251T7	O	O
422	SW0128T7	O	O	471	SW0252T7	O	O
423	SW0129T7	O	O	472	SW0253T7	O	O
424	SW0130T7	O	N	473	SW0255T7	O	O
425	SW0133T7	M	M	474	SW0256T7	O	O
426	SW0134T7	O	O	475	SW0257T7	O	O
427	SW0135T7	M	O	476	SW0258T7	O	O
428	SW0140T7	O	O	477	SW0262T7	O	O
429	SW0141T7	M	O	478	SW0275T7	O	O
430	SW0143T7	O	O	479	SW0278T7	M	O
431	SW0145T7	O	O	480	SW0285T7	O	O
432	SW0147T7	O	O	481	SW0289T7	O	M
433	SW0152T7	O	O	482	SW0290T7	O	O
434	SW0155T7	O	N	483	SW0293T7	O	O
435	SW0157T7	O	O	484	SW0300T7	O	O

SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes	SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes
485	SW0302T7	O	O	534	SW0430T7	M	O
486	SW0303T7	O	O	535	SW0435T7	O	O
487	SW0307T7	O	O	536	SW0436T7	O	O
488	SW0308T7	O	O	537	SW0438T7	O	O
489	SW0311T7	O	O	538	SW0439M13	O	O
490	SW0312T7	O	O	539	SW0440T7	O	O
491	SW0313T7	O	O	540	SW0442M13	O	N
492	SW0314T7	O	O	541	SW0443T7	O	O
493	SW0319T7	O	O	542	SW0444T7	O	O
494	SW0322T7	O	N	543	SW0448T7	O	M
495	SW0333T7	O	O	544	SW0452M13	O	O
496	SW0338T7	M	O	545	SW0455T7	O	O
497	SW0340T7	O	O	546	SW0456T7	O	O
498	SW0342T7	O	O	547	SW0457T7	O	O
499	SW0344T7	O	O	548	SW0458T7	O	O
500	SW0346T7	O	O	549	SW0459T7	O	O
501	SW0347T7	O	O	550	SW0460T7	M	M
502	SW0349T7	M	O	551	SW0463T7	O	O
503	SW0350T7	O	O	552	SW0467M13	O	O
504	SW0351T7	O	O	553	SW0469M13	M	O
505	SW0352T7	O	O	554	SW0473M13	O	M
506	SW0354T7	O	O	555	SW0474T7	O	O
507	SW0355T7	O	O	556	SW0476T7	O	O
508	SW0356T7	O	M	557	SW0481T7	O	U
509	SW0357T7	O	O	558	SW0485T7	O	U
510	SW0361T7	O	O	559	SW0486T7	O	U
511	SW0362T7	O	O	560	SW0487T7	O	U
512	SW0365T7	O	O	561	SW0488T7	O	O
513	SW0366T7	O	O	562	SW0490T7	U	U
514	SW0381T7	O	O	563	SW0491T7	O	U
515	SW0391M13	O	O	564	SW0492T7	O	U
516	SW0393T7	O	O	565	SW0494T7	O	U
517	SW0395T7	O	M	566	SW0495T7	O	O
518	SW0396T7	M	O	567	SW0497T7	O	N
519	SW0398T7	O	O	568	SW0500T7	O	U
520	SW0400T7	O	O	569	SW0501T7	N or U	U
521	SW0404T7	O	O	570	SW0502T7	M	N
522	SW0405T7	O	O	571	SW0503T7	O	U
523	SW0406T7	M	O	572	SW0504T7	O	N
524	SW0407T7	O	O	573	SW0505T7	N	N
525	SW0408T7	M	O	574	SW0506T7	O	U
526	SW0413T7	M	O	575	SW0509T7	O	M
527	SW0414T7	O	U	576	SW0512T7	O	U
528	SW0415T7	O	O	577	SW0513T7	O	U
529	SW0417T7	N	O	578	SW0515T7	O	O
530	SW0418T7	O	O	579	SW0516T7	O	M
531	SW0426T7	O	O	580	SW0517T7	O	M
532	SW0427T7	O	O	581	SW0518T7	O	N
533	SW0428T7	M	U	582	SW0525T7	M	N

SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes	SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes
583	SW0529T7	O	N	632	SW0651T7	O	N
584	SW0532T7	O	N	633	SW0653T7	M	O
585	SW0533T7	O	N	634	SW0655T7	O	O
586	SW0534T7	O	M	635	SW0656T7	O	O
587	SW0535T7	O	O	636	SW0664T7	M	O
588	SW0536T7	M	U	637	SW0666T7	O	O
589	SW0538T7	O	N	638	SW0667T7	O	U
590	SW0540T7	O	O	639	SW0671T7	O	O
591	SW0541T7	O	O	640	SW0673T7	O	M
592	SW0542T7	O	O	641	SW0675T7	O	O
593	SW0543T7	O	O	642	SW0686T7	O	O
594	SW0544M13	O	M	643	SW0689T7	O	O
595	SW0545T7	O	O	644	SW0693M13	M	O
596	SW0546T7	O	O	645	SW0695T7	O	M
597	SW0547T7	O	U	646	SW0698T7	M	M
598	SW0550T7	O	M	647	SW0701T7	O	O
599	SW0551T7	O	M	648	SW0708T7	O	M
600	SW0552T7	O	U	649	SW0714T7	O	O
601	SW0554T7	O	U	650	SW0715T7	O	N
602	SW0559T7	O	M	651	SW0716T7	O	M
603	SW0561T7	O	N	652	SW0720T7	O	O
604	SW0562T7	O	U	653	SW0722T7	O	N
605	SW0566T7	O	O	654	SW0723T7	O	O
606	SW0567T7	O	N	655	SW0725T7	O	M
607	SW0568T7	O	N	656	SW0726T7	O	O
608	SW0569T7	O	O	657	SW0727T7	M	U
609	SW0571T7	O	O	658	SW0728T7	O	U
610	SW0578T7	O	N	659	SW0729T7	O	O
611	SW0580T7	O	O	660	SW0730M13	O	M
612	SW0582T7	O	O	661	SW0731T7	O	O
613	SW0584T7	O	O	662	SW0732T7	O	N
614	SW0591T7	N	O	663	SW0733T7	O	O
615	SW0606T7	O	O	664	SW0735T7	O	O
616	SW0607T7	O	O	665	SW0738T7	O	O
617	SW0608T7	O	O	666	SW0740T7	O	N
618	SW0611T7	O	O	667	SW0750T7	O	O
619	SW0612T7	N	O	668	SW0752T7	O	O
620	SW0616T7	O	M	669	SW0755T7	O	O
621	SW0623T7	O	O	670	SW0756T7	O	N
622	SW0629T7	O	O	671	SW0757T7	O	O
623	SW0635T7	O	O	672	SW0761T7	O	N
624	SW0636T7	O	O	673	SW0762T7	O	O
625	SW0637T7	O	M	674	SW0764T7	M	O
626	SW0640T7	N	O	675	SW0765T7	O	O
627	SW0641T7	O	M	676	SW0767T7	M	O
628	SW0642T7	O	O	677	SW0769T7	M	M
629	SW0644T7	O	O	678	SW0771T7	O	M
630	SW0645T7	O	O	679	SW0775T7	M	M
631	SW0646T7	O	O	680	SW0776T7	O	O

SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes	SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes
681	SW0780T7	O	O	730	SW0920T7	O	O
682	SW0782T7	M	M	731	SW0922T7	O	O
683	SW0785T7	O	O	732	SW0929T7	O	O
684	SW0789T7	O	O	733	SW0930T7	O	O
685	SW0790T7	O	N	734	SW0933T7	M	O
686	SW0795T7	O	O	735	SW0936T7	M	O
687	SW0796T7	M	M	736	SW0937T7	O	O
688	SW0798T7	M	M	737	SW0938T7	N	O
689	SW0799M13	O	O	738	SW0940T7	O	O
690	SW0801T7	O	O	739	SW0943T7	O	O
691	SW0802T7	M	M	740	SW0945T7	O	O
692	SW0804T7	O	O	741	SW0946T7	N	O
693	SW0806T7	O	M	742	SW0951T7	O	O
694	SW0807T7	N	N	743	SW0952T7	O	O
695	SW0810T7	M	O	744	SW0953T7	O	O
696	SW0814T7	O	O	745	SW0955T7	N	O
697	SW0816T7	N	N	746	SW0957T7	O	O
698	SW0819T7	O	O	747	SW0967T7	O	M
699	SW0822T7	O	M	748	SW0968T7	O	O
700	SW0827T7	O	O	749	SW0970T7	O	N
701	SW0829T7	O	M	750	SW0974T7	O	O
702	SW0830T7	O	M	751	SW0975T7	O	O
703	SW0831T7	O	O	752	SW0976T7	O	O
704	SW0834T7	O	O	753	SW0977T7	M	N
705	SW0835T7	O	N	754	SW0978T7	O	N
706	SW0838T7	O	U	755	SW0983T7	O	M
707	SW0840T7	O	O	756	SW0988T7	O	N
708	SW0842T7	O	O	757	SW0989T7	M	O
709	SW0845T7	O	O	758	SW0990T7	M	N
710	SW0846T7	O	M	759	SW0991T7	O	N
711	SW0848T7	O	M	760	SW0992T7	O	O
712	SW0851T7	M	M	761	SW0997T7	M	N
713	SW0853T7	O	O	762	SW1004T7	O	O
714	SW0854T7	N	O	763	SW1007T7	M	N
715	SW0857T7	O	O	764	SW1008T7	O	O
716	SW0858T7	M	N	765	SW1024T7	O	M
717	SW0859T7	M	M	766	SW1027T7	O	O
718	SW0860T7	O	M	767	SW1028T7	O	O
719	SW0862T7	M	M	768	SW1029T7	O	M
720	SW0865T7	N	O	769	SW1030T7	M	O
721	SW0868T7	O	O	770	SW1032M13	O	O
722	SW0891T7	O	O	771	SW1036T7	O	N
723	SW0897T7	O	O	772	SW1037T7	O	N
724	SW0898T7	O	O	773	SW1039T7	O	N
725	SW0901T7	O	O	774	SW1047T7	M	N
726	SW0904T7	O	O	775	SW1048T7	O	O
727	SW0905T7	N	O	776	SW1050T7	O	O
728	SW0917T7	O	O	777	SW1055T7	O	N
729	SW0919T7	O	O	778	SW1062T7	O	O

SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes	SEQ ID NO	clone name	Cell line probe	Cancer Tissue Probes
779	SW1063T7	O	O	828	SW1192T7	O	N
780	SW1066T7	O	O	829	SW1196T7	M	N
781	SW1069T7	O	O	830	SW1199T7	M	O
782	SW1070T7	M	O	831	SW1200T7	O	M
783	SW1074T7	O	O	832	SW1202T7	O	N
784	SW1075T7	O	O	833	SW1204T7	O	N
785	SW1076T7	O	O	834	SW1205T7	O	N
786	SW1077T7	O	O	835	SW1207T7	O	N
787	SW1078T7	O	O	836	SW1210T7	M	N
788	SW1081T7	O	O	837	SW1213T7	O	M
789	SW1082T7	O	O	838	SW1221T7	O	N
790	SW1094T7	O	O	839	SW1223T7	O	O
791	SW1095T7	O	N	840	SW1224T7	O	N
792	SW1096T7	O	O	841	SW1228T7	O	O
793	SW1099T7	O	O	842	SW1230T7	O	N
794	SW1101T7	O	O	843	SW1231T7	O	O
795	SW1103T7	O	O	844	SW1234T7	O	O
796	SW1111T7	O	O	845	SW1235T7	O	N
797	SW1112T7	O	O	846	SW1237T7	O	N
798	SW1113T7	O	O	847	SW1240T7	O	O
799	SW1117T7	O	O	848	SW1241T7	O	O
800	SW1118T7	O	O	849	SW1243T7	O	O
801	SW1119T7	O	O	850	SW1246T7	O	N
802	SW1121T7	O	N				
803	SW1125T7	O	O				
804	SW1128T7	M	N				
805	SW1129T7	O	O				
806	SW1140T7	M	N				
807	SW1143T7	O	O				
808	SW1145T7	M	O				
809	SW1149T7	M	O				
810	SW1153T7	O	N				
811	SW1157T7	O	O				
812	SW1158T7	O	N				
813	SW1164T7	O	M				
814	SW1165T7	O	N				
815	SW1166T7	O	O				
816	SW1167T7	O	N				
817	SW1170T7	M	N				
818	SW1171T7	O	N				
819	SW1172T7	O	N				
820	SW1173T7	O	N				
821	SW1175T7	O	N				
822	SW1178T7	O	O				
823	SW1179T7	O	O				
824	SW1180T7	M	N				
825	SW1183T7	O	M				
826	SW1187M13	O	N				
827	SW1189T7	O	N				

Table 2

SEQ ID NO	Clone name	"Novel" Region 1		"Novel" Region 2		GenBank Identifier for top 5 matching EST sequences	
		Start / Stop	Start / Stop	Start / Stop	Start / Stop	Start / Stop	Start / Stop
128	SW0004M13	742-865				g1947473	g1952906
129	SW0004T7	752-910				g1947473	g2209605
130	SW0011M13	1-218		553-932		g2241970	
131	SW0011T7	1-264		599-890		g2241970	
132	SW0015T7	483-606				g675241	g2337538
133	SW0024T7	1-148		268-606		g4033911	g942639
134	SW0026M13	400-598				g767139	g2038504
135	SW0026T7	1-199		285-336		g767139	g1494014
136	SW0033T7	427-610				g2873486	g1721900
137	SW0038T7	321-645				g4222862	g3229743
138	SW0069T7	366-612				g770924	
139	SW0073T7	521-592				g1152099	g1296011
140	SW0076T7	456-618				g2567157	g2031668
142	SW0082T7	511-601				g1718668	g1137129
146	SW0101T7	420-624				g1376510	g390100
147	SW0102T7	512-599				g4223023	g2931421
148	SW0105T7	1-219		570-609		g2835475	g2007732
149	SW0108T7	220-296		552-589		g2154028	g2882934
150	SW0111T7	1-68				g1308307	
153	SW0119T7	510-596				g4265953	g2876545
154	SW0122T7	1-51				g1760809	
158	SW0146T7	1-76		333-617		g2009649	g961346
159	SW0156T7	1-71		782-1002		g2902747	g1162310
162	SW0166T7	1-48		444-638		g2264624	g2357138
163	SW0175T7	1-303		829-1002		g724430	
166	SW0185T7	113-208				g1647210	
168	SW0191T7	388-683				g829950	g1441052
172	SW0213T7	449-617				g3886373	g955941
174	SW0229T7	293-987				g2033455	

SEQ ID NO	Clone name	"Novel" Region 1		"Novel" Region 2		GenBank Identifier for top 5 matching EST sequences	
		Start / Stop	Start / Stop	Start / Stop	Start / Stop		
176	SW0241T7	494-570				g2010030	g893980
177	SW0242T7	1-41	440-621			g3645529	g1978587
178	SW0246T7	1-202				g1162850	g1191239
179	SW0248T7	497-650				g4079044	g2788869
182	SW0264T7	1-94	479-609			g1976294	g2459258
186	SW0273T7	1-89	546-638			g3677131	g3805522
187	SW0280T7	412-628				g1815110	g1933167
188	SW0281T7	109-160	572-654			g2436919	g2185995
189	SW0291T7	461-650				g1992596	g1138351
190	SW0294T7	431-699				g2839339	g3838466
196	SW0311M13	1-46	456-658			g4195712	g4648481
197	SW0325T7	511-615				g1270394	g3896108
198	SW0326T7	499-557				g1967113	g1967684
200	SW0334T7	525-615				g1624696	g2356793
202	SW0341T7	414-584				g774421	g570881
203	SW0358T7	112-188	513-608			g1984379	g3789679
204	SW0359T7	57-159	561-621			g1802072	g1663807
206	SW0361M13	1-65	183-572			g2030884	g645753
207	SW0367T7	559-616				g644105	g716356
210	SW0399T7	486-589				g1856563	g1690249
211	SW0401T7	470-590				g1165586	g1690123
212	SW0403T7	369-614				g3214476	g1648508
213	SW0412T7	1-304	509-624			g681577	g712993
214	SW0419T7	134-612				g1388511	g4533033
215	SW0429T7	516-618				g1349681	g1269881
216	SW0434T7	349-595				g4261346	g3596444
217	SW0441T7	428-610				g4762076	g2158733
218	SW0446T7	458-585				g4111486	g1484542
219	SW0454T7	116-599				g1319069	g1319055
220	SW0461T7	1-189	411-602			g1295370	g2008512
221	SW0468T7	1-55	477-573			g2163292	g2162568
223	SW0489M13	449-564				g1779025	g2027299
						g918739	g1976699
						g2335995	g2019409
						g1990341	g2538237
						g2788869	g3750745
						g2459258	g2577184
						g3244458	g4598742
						g2817266	
						g3758001	g654599
						g1146820	g395782
						g1307860	g2617794
						g2750125	g796654
						g2009344	g1238973
						g1966134	g1966828
						g1784223	g1774696
						g1623681	g3040994
						g3741829	g4531886
						g1894318	g1775584
						g1988795	g1577434
						g901097	g1188705
						g1966703	g1952828
						g1967659	g1491055
						g1802846	g2703245
						g4305548	g3428224
						g2552190	g3240798
						g4522374	g1272714
						g3755357	g3329909
						g2158750	g2809783
						g3415988	g1959348
						g2669407	g2355953
						g1783876	g1571056
						g4534378	g1225564
						g1960180	g2016248

SEQ ID NO	Clone name	"Novel" Region 1		"Novel" Region 2		GenBank Identifier for top 5 matching EST sequences	
		Start / Stop	Start / Stop	Start / Stop	Start / Stop		
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We claim:

1. An isolated nucleic acid comprising a nucleotide sequence which hybridizes under stringent conditions to a sequence of SEQ ID Nos. 1-127 or a sequence complementary thereto.
- 5 2. An isolated nucleic acid comprising a nucleotide sequence at least 80% identical to a sequence corresponding to at least about 15 consecutive nucleotides of one of SEQ ID Nos. 1-127 or a sequence complementary thereto.
- 10 3. An isolated nucleic acid comprising a nucleotide sequence of SEQ ID Nos. 1-127 or a sequence complementary thereto.
- 15 4. A nucleic acid according to claim 1, further comprising a transcriptional regulatory sequence operably linked to said nucleotide sequence so as to render said nucleotide sequence suitable for use as an expression vector.
- 20 5. An expression vector, capable of replicating in at least one of a prokaryotic cell and eukaryotic cell, comprising the nucleic acid of claim 4.
- 25 6. A host cell transfected with the expression vector of claim 5.
7. A transgenic animal having a transgene of the nucleic acid of claim 1 incorporated in cells thereof, which transgene modifies the level of expression of the nucleic acid, the stability of an mRNA transcript of the nucleic acid, or the activity of the encoded product of the nucleic acid.
- 30 8. A substantially pure nucleic acid which hybridizes under stringent conditions to a nucleic acid probe corresponding to at least 12 consecutive nucleotides of one of SEQ ID Nos. 1-127 or a sequence complementary thereto.

9. A polypeptide including an amino acid sequence encoded by a nucleic acid of claim 1 or a fragment comprising at least 25 amino acids thereof.
- 5 10. A probe/primer comprising a substantially purified oligonucleotide, said oligonucleotide containing a region of nucleotide sequence which hybridizes under stringent conditions to at least 12 consecutive nucleotides of sense or antisense sequence selected from SEQ ID Nos. 1-127.
- 10 11. An array including at least 10 different probes of claim 10 attached to a solid support.
12. The probe/primer of claim 10, further comprising a label group attached thereto and able to be detected.
- 15 13. The probe/primer of claim 12, wherein said label group being selected from radioisotopes, fluorescent compounds, enzymes, and enzyme co-factors.
14. An antibody immunoreactive with a polypeptide of claim 9.
- 20 15. An antisense oligonucleotide analog which hybridizes under stringent conditions to at least 12 consecutive nucleotides of one of SEQ ID Nos. 1-850 or a sequence complementary thereto, and which is resistant to cleavage by a nuclease.
- 25 16. A test kit for determining the phenotype of transformed cells, comprising the probe/primer of claim 12, for measuring a level of a nucleic acid which hybridizes under stringent conditions to a nucleic acid of SEQ ID Nos. 1-850 in a sample of cells isolated from a patient.
- 30 17. A test kit for determining the phenotype of transformed cells, comprising an antibody specific for a protein encoded by a nucleic acid which hybridizes under stringent conditions to any one of SEQ Nos. 1-850.

18. A method of determining the phenotype of a cell, comprising detecting the differential expression, relative to a normal cell, of at least one nucleic acid which hybridizes under stringent conditions to one of SEQ ID Nos. 1-850, wherein the nucleic acid is differentially expressed by at least a factor of two.
19. A method for determining the phenotype of cells in a sample of cells from a patient, comprising:
- i. providing a nucleic acid probe comprising a nucleotide sequence having at least 12 consecutive nucleotides of any of SEQ ID Nos. 1-850;
 - ii. obtaining a sample of cells from a patient;
 - iii. providing a second sample of cells substantially all of which are non-cancerous;
 - iv. contacting the nucleic acid probe under stringent conditions with mRNA of each of said first and second cell samples; and
 - v. comparing (a) the amount of hybridization of the probe with mRNA of the first cell sample, with (b) the amount of hybridization of the probe with mRNA of the second cell sample, wherein a difference of at least a factor of two in the amount of hybridization with the mRNA of the first cell sample as compared to the amount of hybridization with the mRNA of the second cell sample is indicative of the phenotype of cells in the first cell sample.
20. A method of determining the phenotype of a cell, comprising detecting the differential expression, relative to a normal cell, of at least one protein encoded by a nucleic acid which hybridizes under stringent conditions to one of SEQ ID Nos. 1-850, wherein the protein is differentially expressed by at least a factor of two.
21. The method of claim 20, wherein the level of said protein is detected in an immunoassay.

22. A method for determining the presence or absence of a nucleic acid which hybridizes under stringent conditions to one of SEQ ID Nos. 1-127 in a cell, comprising contacting the cell with a probe of claim 10.
- 5
23. A method for determining the presence or absence of a polypeptide encoded by a nucleic acid which hybridizes under stringent conditions to one of SEQ ID Nos. 1-127 in a cell, comprising contacting the cell with an antibody of claim 14.
- 10
24. A method for detecting a mutation in a test nucleic acid which hybridizes under stringent conditions to a nucleic acid of SEQ ID Nos. 1-383 or a sequence complementary thereto, comprising
- 15
- i. collecting a sample of cells from a patient,
 - ii. isolating nucleic acid from the cells of the sample,
 - iii. contacting the nucleic acid sample with one or more primers which specifically hybridize to a nucleic acid sequence of SEQ ID Nos. 1-383 under conditions such that hybridization and amplification of the nucleic acid occurs, and
- 20
- iv. comparing the presence, absence, or size of an amplification product to the amplification product of a normal cell.
25. A method for identifying an agent which alters the level of expression in a cell of a nucleic acid which hybridizes under stringent conditions to one of SEQ ID
- 25
- Nos. 1-850 or a sequence complementary thereto, comprising
- i. providing a cell;
 - ii. treating the cell with a test agent;
 - iii. determining the level of expression in the cell of a nucleic acid which hybridizes under stringent conditions to one of SEQ ID Nos. 1-850 or a sequence complementary thereto; and
- 30
- iv. comparing the level of expression of the nucleic acid in the treated cell with the level of expression of the nucleic acid in an

untreated cell, wherein a change in the level of expression of the nucleic acid in the treated cell relative to the level of expression of the nucleic acid in the untreated cell is indicative of an agent which alters the level of expression of the nucleic acid in a cell.

- 5
26. A pharmaceutical composition comprising an agent identified by the method of claim 25.
- 10 27. A pharmaceutical composition comprising a nucleic acid which includes a nucleotide sequence which hybridizes under stringent conditions to one of SEQ ID Nos. 1-850 or a sequence complementary thereto.
- 15 28. A pharmaceutical composition comprising a polypeptide encoded by a nucleic acid which includes a nucleotide sequence that hybridizes under stringent conditions to one of SEQ ID Nos. 1-850 or a sequence complementary thereto.
29. An isolated nucleic acid comprising a portion of a nucleotide sequence of SEQ ID Nos. 128-383 or a sequence complementary thereto.
- 20 30. A gene which hybridizes to one of SEQ ID Nos. 1-383.
31. A method for detecting cancer in which one or more of SEQ ID Nos. 1-850 are used as probes, said method comprising:
- 25 i. collecting a sample of cells from a patient,
- ii. isolating nucleic acid from the cells of the sample,
- iii. contacting the nucleic acid sample with one or more primers which specifically hybridize to a nucleic acid sequence of SEQ ID Nos. 1-850 under conditions such that hybridization and amplification of the nucleic acid occurs, and
- 30 iv. comparing the presence, absence, or size of an amplification product to the amplification product of a normal cell.

32. A method of claim 31 in which said cancer is colon cancer.
- 5 33. A method for detecting cancer in a patient sample in which an antibody to a protein encoded by SEQ ID Nos. 1-850 is used to react with proteins in said sample.
34. A method of claim 33 in which said cancer is colon cancer.

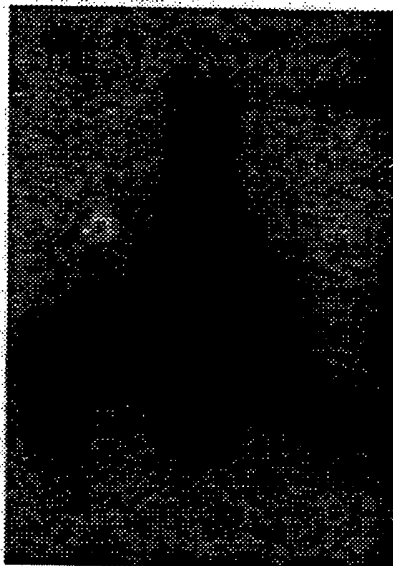
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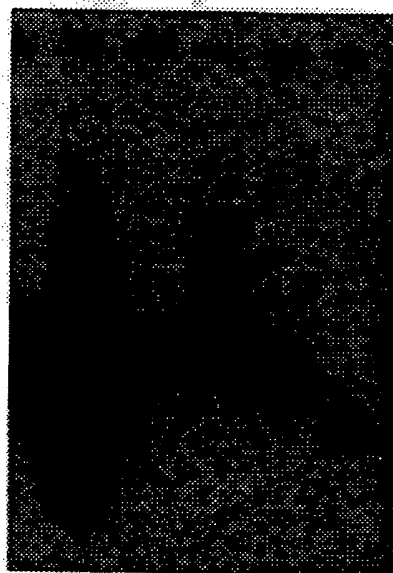
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Cancer Probe



Normal Probe



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gctcggaagt	gaaggatcgc	cacctggtgg	ctaagagact	gactgaacat	gtgcaagatn	420
aaagcaagct	gcctatcctc	atcttcccag	aaggaacctg	catcaataat	acatcgngga	480
tgatgttcaa	aaaggggaagn	tttgaaattg	nagccacagt	ttaccctggn	gctatnaagt	540
atgacctca	att					553

<210> 4
 <211> 565
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(565)
 <223> n = A,T,C or G

<400> 4						
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tgggcacaac	tgtgggtggga	tacttgccaa	atgggaggtt	taaggagttc	atgagtaaac	120
atgttcactt	aatgtgttac	cggatctgcg	tgcgagcgct	gacagccatc	atcacctacc	180
atgacagggg	aaacagacca	agaaatggtg	gcatctgtgt	ggccaatcat	acctcaccga	240
tcgatgtgat	catcttggcc	agcgatggct	attatgccat	ggtgggtcaa	gtgcacgggg	300
gactcatggg	tgtgattcag	agagccatgg	tgaaggcctg	cccacacgtc	tggtttgagc	360
gctcggaagt	gaaggatcgc	cacctggtgg	ctaagagact	gactgaacat	gtgcaagata	420
aaagcaagct	gcctatctca	tctttccaga	aggaacctgc	atcataatac	attggtgata	480
tgtcaaaaan	gggaagtttt	gaaatgganc	cccagtttaa	cctgnngntt	tnagtttnac	540
ccttaatttg	gcaagccttt	tggan				565

<210> 5
 <211> 500
 <212> DNA
 <213> Homo sapiens

<400> 5
 caggtacaca ttcaggggtc actgactctt cagataatgc cctaaacaac tggagtgtgg 60
 gcttgtttgc tccaagagca gctgccctgt cagtggaaact ccggcgact tccactcaat 120
 actggactgg gggggatgaa agagggattt ttaaattggca gaaaagtgtt cttctgggct 180
 gtctggcccg ggcagggcgg gttgtgactt ggaaaagaag gggaaggtag ggaggccttg 240
 aacttaggga cagccagcaa atgatccttg cagcttttgg aacacaaggc agggctaagg 300
 ttaccttttc gcttccttgc ttaagtagca gtggctaagt gggttaaact ttgctcggcc 360
 tgcaggctcc cctgttggg cagatacttg cattgacatc ctcagtgttc aatgctcctg 420
 gaagagccca ggagaggcgg gcaactggccc agggattgca ggtcaggga ctctagcaaa 480
 ttccacacc ctaggggtacc 500

<210> 6
 <211> 622
 <212> DNA
 <213> Homo sapiens

<400> 6
 acaaggaaat gtcagtcagg ggtgttgcat attacatata tgtggttacc gaacttggtt 60
 tacattattg attaaattca ttttctcttt ctctttttta gaccttttga tatctcctcc 120
 tccttccctt tatctataaa tatgtaagaa agaaaacatg tttaaaatac aatattttat 180
 ttcttttgat cacagattag acttaaagaa cagagatgcc ctataatgtg atctttaaga 240
 gatattacaa agcttccaat ctactgtga ggatcggttaa agtataataa taaaaaaaaa 300
 tgtatattat aaaagaatgt aagaatgtgc atattttatt ccttgcatat taatggcata 360
 agaaactgtt aacagggact tggggtaagg cttgtgggaa ggaaggtagt tttcactgta 420
 ttccttttgt attgttttaa gtttttactt gttttttaag caagcatgta tcactttata 480
 tgatatttaa aagttgctct tctcaagaca gaaaatcatt ttgattcatt tctaattcaa 540
 ataagcacta attgaggata ttttaatatata tcctcacatt gtgaaaggat taaggcacia 600
 tttctagctt caaaactgta cc 622

<210> 7
 <211> 621
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(621)
 <223> n = A,T,C or G

<400> 7
 ggtacccttg tctttaaaag gattccccct tataaggact cttcaagtaa atccacacat 60
 atatagtcaa ctaatttttg acaaagacac caagaatata caatgggggaa aggatagtgt 120
 cttcaataaa cagtattgga aatactggat atccacatgc aaaagaatga aattggatga 180
 aatatggtga aattatttta caccgtaccg gctccccaac gtgcacggca ggagctacgg 240
 cccagcgccg ggcgctggcc acgtgcagaa atggagtttc atcatgttgt cctctcgaac 300
 tcctgacctc aagtgatcca cccgnctcgc ccttccaaaag tgctgagatt acaggaagag 360
 tctaacctgc tctgcaagct cttgagtccc gccaaagatga tattttaaac gtctgtatga 420
 agttgaaagc tgcagntgat ggcctnttca agatgattca aaccncngat gcnnacttgg 480
 atgtaancca cntaattca agccggtnan nccncnnant taaccnnaag ggcttgatt 540
 tgaattcagg cnttggnaag gttncggggc ccttaaaaana nattgggggtt aacgcaaacc 600
 ggcttccntt ccttttcttg n 621

<210> 8
 <211> 649
 <212> DNA
 <213> Homo sapiens

<400> 8

actgatctcc	tggtggcctg	cttcatttgt	cctgcagttg	tcaatccaga	acaatatgga	60
ataatttccg	atgctcctat	taatgaagta	gcacgattta	atctgatgca	ggtaggccgc	120
cttttgcagc	agttagcaat	gactggctct	gaagaggagg	atccccgaac	aaagagcagc	180
cttggaaggt	ttgacaaaag	ctgtgttgcc	gctttccttg	atgttgatg	tgggggcccgt	240
gcagtggaga	ccctccatt	gtcttcctgc	aatcttctgg	aaggattgag	cagaactgtg	300
gtttatataa	cctacagtca	ggcttattac	tctgggtgaat	tttatgaaag	agtgtgatgt	360
ctggagatca	actgagagaa	gatagaatgg	ctcttgacaa	tttatgggca	aacctacccc	420
cggccaagcc	aggaaaaagt	agcagtttag	aatgactcc	ctacaataca	cctcagctat	480
ctccagcaac	cactccagca	aataaaaaaga	atcgattacc	tatagcaact	cggagcagaa	540
gccgcaccaa	tatgctaagt	gacctacata	tggaccatga	aggatcatct	caagaaacca	600
tccaggaggt	gcaaccagaa	gaggtgttgg	tcatttcctt	aggtacctc		649

<210> 9
 <211> 645
 <212> DNA
 <213> Homo sapiens

<400> 9

acttagtgca	acatatgaa	cttaaattcc	agttttcctg	gaattacttg	tgtcttgagc	60
taaaggctgt	atttgatata	acaggggaag	aaagaaatta	tttttcctat	aaaattagtt	120
tagtttaaaa	acacatataa	ttaaacaaaa	taaaaatatt	attccatctt	ttaaagaaca	180
tttactaatt	cacagatatt	acccgaagtt	tagaaagtca	cctaagaaca	attgtttaaa	240
aattatttag	ggaaaatgaa	gcaaaattgt	tttcaatctg	agattttaac	agccagtgca	300
ctcctgttcc	tcagctgaaa	gtccccttca	ttctgaatgt	ctgcagtagt	attgaattgg	360
ggagcagtta	ggttccaggg	acatatcac	tcctgttttg	ttctcccatc	aatctcagcc	420
ctttcgggtga	ctgtttgggc	aaagcctccc	ttgtggtaga	agatgcctca	cttctgggga	480
gaagaggctc	ctcatcttgc	agacaagaag	cagcaccac	tgtttcttgc	tccaaaagcc	540
attaacatta	taaactggcc	agttgcagtg	gctcaaactt	gtaatcccag	caccttttgg	600
gaggttgagg	cacaaggatt	gcttgagccc	aggagtttga	gtacc		645

<210> 10
 <211> 564
 <212> DNA
 <213> Homo sapiens

<400> 10

cgcgcccgag	gtacctgggc	ttaacagtaa	tagagaacct	catttatacc	atacagacac	60
agcaacttag	gaagacagca	ctgatagcat	ttagctagtt	gtaaccaa	ccaaatatgt	120
aaaattgaga	attatgatta	acatatgcaa	ctttagtaat	aggaatagat	gataattttc	180
ctgtattgtt	tcaaataagt	gactgttcag	ctgggatcca	ttggattata	atttacaatg	240
tcacataata	ttatgctttt	caatattgat	gagtgatgta	aacaatataa	agttggcagt	300
ttgtagtagt	tcagtatcct	agaaatacat	tgaacttcat	aagtatcagt	tcatttttta	360
gcatacagaa	ttgaactgat	acttactgaa	atcataaact	cagaggaaac	aagcccatct	420
ttatcactaa	ttacttagct	tgaatacttt	tctattttta	aataatccta	attattgcct	480
tttcaattat	agtctactgt	atatttttat	atgggatcaa	caggtattta	tcaaacatct	540
actgtgtgcc	cagcactacc	tagt				564

<210> 11
 <211> 593
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(593)
 <223> n = A,T,C or G

<400> 11
 cgaggtgcct cgcctcgggc attttcttgc agcaagaagg gacgcatgcc tctggcataa 60
 atccaaccag agagtcaccc ctctcaagct gatttttttaa aaatctagat attatttaga 120
 tcatttcagc aaattcttaa tgctttggcc ttccacagta agatgttgct taatcggctg 180
 gatctcccc ctccttgcca aggagactca attttgcat tgcccatatc tgcctagtta 240
 aatcgttgct atactaaagg ttctgggagg gtggggacag aatttccccg gtgctaattgc 300
 ggcaactgaat cgcaggaggc tgccatgcat ttcttcagtc atctacaacc aagaattctc 360
 agagcagtc ctcggcagcc ttttgaagct gtgctagagc agaaagctgc tattgntctc 420
 atctctcaac aaggaaaagga tcaaactttg cctctttcaa ttgaaagat ttttttttat 480
 ggtggtgggg ggaagggtt gcaatcttga tncatcaagt aactttgagg atttggagtg 540
 gtctnccagt ttaaactgca gatcaaatca cagaagccct aacgcctgca tnt 593

<210> 12
 <211> 602
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(602)
 <223> n = A,T,C or G

<400> 12
 acacacaatt ccactctacc acccaacatc aatgagcatt tattgagcat ctactgaagc 60
 tcacagcatt gtgcaggcag gatacatatc atacaaatgc tgtttcctcc tcccaccaa 120
 tgaggagaa ttagatgaga tttttaaaaa ttctccttag ttctacaacc agtattgtat 180
 actgatccaa tttgggaagt taagtttaaa attaatcaa ggattccagt tgaggaaatg 240
 gtcccacttc cttggaaagt aaactagctc ggtcaccagg ctaggttacc cacgttgtaa 300
 ttgcttgatga ttgactactc caccgtatta atgatgaagt gcccccgact tgagatgcag 360
 gcgttagggc atctgtgatt tgatctgcag tttaaactgg gagaccactc caaatcctca 420
 aagttaactt tgagtatcag attgcaatcc ttccccacc accataaaaa aaaatctttc 480
 aaattgaaga ggcaaaaagt ggatcctttc cttgttgaga gatgagacca ttgccgcttt 540
 ttgntntagc caggtttcaa anggttgcca nggactgntn tganaatctn ggtgganaaa 600
 an 602

<210> 13
 <211> 487
 <212> DNA
 <213> Homo sapiens

<400> 13
 gcgtggcgcg gccgaggtac tggaggccat ccagcccata ccctggcggg gggcaaacct 60
 cagatgcctc cttcttgggt ttcatggggc accaggatcc atcttccatg aattggatct 120

catcacaatc	tgaacaggaa	ctaagaatct	ccataaataa	accatcaatg	ataagagatt	180
catagggagc	cttcttgtca	cacacaggac	atgtccatgt	aggcttcttc	tcattcatct	240
gtagataaag	ggcagcatcg	aagctctgca	ggtgggcgca	ggtgagggca	cgacaaggga	300
cagtcaggcg	catcttccct	agcgggcaca	tgagtgacac	ccggagactt	gtagtggcca	360
cctcactgtc	agggtcagca	gtcaatttct	ccttgatcag	tgcccgcgag	tggtctgggt	420
tccggatacc	ctttgctctg	agtttttgta	gaagggttcc	tgcagtcaac	tgccctacca	480
ggtacct						487

<210> 14

<211> 300

<212> DNA

<213> Homo sapiens

<400> 14

acagaaatc	ttaactgctt	atgaaatgct	gattgttaaa	cagcatccac	agctattttg	60
tgttgtttcc	ctgacccac	cctgaagaaa	agaaaaatta	tgccatattg	aaaacagcag	120
tatgatgtaa	gagaaaagat	cacaaattcc	ttgagggtgg	gtcttttcca	tactcataag	180
cctatttata	atattcagag	taattttattg	acacatatta	atattccctc	ctatcccatt	240
aattgccaaa	tcatcaaaca	tttattgagc	acctactctg	tgtagggtgt	aagcagtacc	300

<210> 15

<211> 882

<212> DNA

<213> Homo sapiens

<400> 15

acctcataac	aaatgcctgc	catgtgttcc	agattcacct	tctttctttc	tgcccagcc	60
ctggaatcag	ctgcttctcc	aagcactcag	gactcctctt	aacagagaat	gataaatact	120
tagaaacccc	tgaggcccgg	tgtgctcagt	gttctaggct	gtcctccttc	taagcccttc	180
tcgtggccag	aaccacacaa	agtatcatca	cgacagcttt	atagtaagtg	ctgggtgtttg	240
cagggcaaat	ggccctcttc	ttcacaagtg	ttttaattaa	tcctggactt	gcactcttct	300
cagtgaattc	tagtcacctt	gtcaggaaaag	agaagtggct	ggatgtcgat	gggaacgtca	360
ttgaatgtta	agagcaactt	tgggagacct	gacacctggc	atcttccctt	ctctgaacat	420
agaggagaat	taagcaaatac	ttccttaaat	gtccttcaat	aaagtttata	tattttctgc	480
atgcagatct	tatctgtctt	aaaattttacc	ccagatacct	ttttgctact	gtaagcatta	540
tgttttaaat	tacattttgt	aaccaattaa	attgttgggt	taacaaaaatg	aattgatttt	600
atattttgat	cttaaatgtg	ctcaactctc	taatctgttc	tgagatccct	atttaggaaa	660
ttacatcaca	tcacatgcca	gtaacagcag	ttttatttct	gcctttttca	ccctctgccc	720
tgctgaaaac	agtgttgtga	ggctgaggat	gatgtgggtt	acacaaaact	tggtctgact	780
gcagggggga	atggaaatct	acataaccac	cttggaaaaa	tcgatatgta	tcaatatgca	840
gacgtctgcg	ttatcctgca	gaactggaca	tttgcacgta	cc		882

<210> 16

<211> 568

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (568)

<223> n = A,T,C or G

<400> 16

ggtactcccg	gctttacagt	taaaaccagt	tttctgggaa	catttggtcaa	acacagggaa	60
aggctgtcct	tttaagttag	tgtttactgc	atttcaccta	agactaaatg	gacaaatgaa	120
ttataaatcc	atatttttagg	aggcataata	aactttggaa	atattttttc	ttaattagag	180
ggaagaaatg	agcaaaaagag	aacccgaggc	tctagctaga	agcccgtgtt	tctctgcctt	240
aattgcatca	aacaatgcct	taataatctg	tgtcttcatg	tgggaggcat	ctactctgtc	300
ctctactttt	tcacttttat	gcaaaactcag	gggaaactca	ggggaaaaaa	tgattctatg	360
aaattataat	tagagccata	tttctagatt	ttaattttca	acattggcat	ttattaattt	420
cctgcagctg	ctgtaacaag	ttaccacaaa	ctggtaaaaa	tggcttaaaa	gaacngaaat	480
ttatttttct	acaggtcaag	gccggaaatn	ccaaatctaa	gcatacanggg	ggtgggggtcc	540
ctttggangn	tcccanggna	ntttttcc				568

<210> 17

<211> 584

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(584)

<223> n = A,T,C or G

<400> 17

acaactgaag	accctagaaa	taagggtttc	aaccctgggt	gccattaga	atcatgaaag	60
agcccccgag	atgtgggttg	aattgggtctg	cagagactcc	aggccccctc	ttttgaagct	120
ccacagatga	ttctttttctg	cctgagggga	ggtgctgagt	tcccatcacc	caccagcttc	180
atcctacaca	ngtgcaatna	gaggcctagt	gagagtggca	ctgggggggtg	gccccccagc	240
gagtgtccaag	tagatcccac	caggcccttn	ctttaggcca	gaggttctag	aaactttgat	300
gaatgtngca	ataaccaggg	ggtgctctga	aaaggnccta	nggctgggct	gcacctgnta	360
aatnaagcc	cagtctttct	ggttggggacc	agaagattcc	naagggcagc	ncgctcttta	420
aaaaccaagt	gccttttctgn	taaacnaatc	cttaggnccn	ttatgtctgc	agttnttaag	480
ntaanggggt	ggtaagntan	taacntccat	taantttnag	tntacactta	agcttttggg	540
ggtatcngnt	tnnagtgnna	ttangnagtc	tttcacaggt	ngtt		584

<210> 18

<211> 560

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(560)

<223> n = A,T,C or G

<400> 18

ggtactcaaa	gcttggactc	catccctgaa	ggtcttctctg	attgatagcc	tggccttaat	60
accctacaga	aagcctgtcc	attgggtgtt	tcttctctcag	tcagttctctg	gaagacctta	120
ccccatgacc	ccagcttcag	atgtgggtctt	tggaaacaga	ggtcgaagga	aagtaaggag	180
ctgagagctc	acattcatag	gtgccgccag	ccttcgtgca	tcttcttgca	tcattctctaa	240
ggagctctct	taattacacc	atgcccgta	ccccatgagg	gatcagagaa	gggatgagtc	300
ttctaaactc	tatattcgct	gtgagtcag	gttgtaaggg	ggagcactgt	ggatgcatcc	360
tattgcactc	cagctgatga	caccaaagct	taggtgtttg	ctgaaagtcc	ttgatgntgn	420
gacttaccac	ccctgcctna	caactgcaga	cataagggga	ctatggattg	cttaacagga	480
aaggcactng	ntctcaangg	cggntgccc	ttgggaaact	tntgggccca	ccccaaagaa	540

tgtggntttt agtttttcnn

560

<210> 19
 <211> 425
 <212> DNA
 <213> Homo sapiens

<400> 19
 ggtacaaaga gaaaagggtca agacattttt caaatgagggg aaaactaaca ggatttatca 60
 ctagtaaaccc tgctctaaaa gaattcaagg gaagcttttt aaaaagaagg gaagttatag 120
 cagaaggaaa cttagaatgg caggaataaa gaaggcataa tgtatagggt aaatataata 180
 gacttctctt gaggttttaa aaattacatt tgttatttga aagaaaaaaa ttaacgttgt 240
 tgtatgtgat tctctgtaga ggatatacag ttttttttgt tgttcttggt tctgtttttt 300
 taagggtgaag tctctgtcac ccaagctgga gtgcagttct gtgatcatgg ctactgcag 360
 cttcaccctg gggtcagggt atcctcccac ttcagcctct tcagtaactg ggactacagg 420
 catgt 425

<210> 20
 <211> 655
 <212> DNA
 <213> Homo sapiens

<400> 20
 tgttacttcc caagcactgt agggcgtaag gaaaatctgg tccttatcaa atcccaggag 60
 cttctgctta gttggggaag aaattacatg aagcaaccag aggttataag gccacacttg 120
 tatatcgtgc accctgtgtg gacaagatta gggactgttg agagaggagg aaaccagtag 180
 agagcaaagc tctaccagg ctccttgtaa gcctctgggc tccccgaga gggcctcgct 240
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 ttgtgtggag gggctctgag gcctctgagg ccagatgtgt aaacagtgtc gaggttcagt 360
 aataggatga agtcttcagg tgtggagcag cccaccttgg ctcttcccat gtctctgtgt 420
 tactttctcat attctgctgt cctttcaaac ttcaaggaca gtattaattt atactagtat 480
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 aatgcggggt ggtggttctc tctttcagaa tggggaactc caaaaaatgg ggctgcgtct 600
 cgctctcag taggttcctt acctctgggt cttccacctc tcaaaatctg gtacc 655

<210> 21
 <211> 566
 <212> DNA
 <213> Homo sapiens

<400> 21
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 gctaaaaataa ctgagaaaaa aagttagtag taaaaaatg ctggaagtct gaaaatgggt 180
 tagacagaac ttcattcctg aagttttagt ctgtagccag attttaattc tggcctgttt 240
 tgggtttttag atgatagatc ttttagtgtg tcaacaggaa tgtaaagttt gtattaacat 300
 ctaggggtgat cacctgccat gctattaagt cagcatggta taattaaaag ttacatatgt 360
 aggttcagag cctcttagca cagtgttaca ttgtaagctc ttggagggca ggaatgagat 420
 tctagtcctt acggaaatgg agtttgggct tctatcccta gcattcattc tagtgccatg 480
 cacgtggtag gaattctgta aatatttgtg aaagaaatga atttctgcct gtagggttca 540
 cgagtgtata cttaaagtgt atgtgt 566

<210> 22

<211> 269
 <212> DNA
 <213> Homo sapiens

<400> 22
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 ggacagctta ggaaaatgat taacatgcag tttttctttt ttcttagcca attcagttct 120
 acttagataa atctgggtgc caatcaatac atatataaat taattttttt ctgctcaatt 180
 actaccattt tttctttttc accttttccc caattttctc tagcaacact tttccttttg 240
 tttgatcagt tgaactcaaa aggtttggt 269

<210> 23
 <211> 815
 <212> DNA
 <213> Homo sapiens

<400> 23
 gaggtaccct tcatccatca ggactgcacc tcctttccca tgagccttct ggggtcacat 60
 tctcctaact gcagctactg ttgctgtttt acttatcgag ggcctattac gtgccaggct 120
 ctgcgctgaa cgcttcacgc ccactggatc atttactcat aatagctcag taaggtagtt 180
 accccaatta gccccatggt agagaaaaac accaaggcac agaggtgagt cacttggtccc 240
 aggtcacaca tctaggaagt agtagaacca ggactcagct caggtccaaa gtctcaacca 300
 tggggccagtc tgctcatctt agtcaaacc ccaggctgca ttctgtggtc cagctactgg 360
 atcctgcaac cttctcagac tctatccatg aagccaagtg cacaggatct aggacatcag 420
 gtccagaaaa attggggcca cattcttctg gacctgcaga tgggcaagga ccagactcta 480
 gcctgaacag tgagatgcag ccagagaag tgggaatcca cagacagagc ctggcctgag 540
 actcctactg agactgccc tgtggccact cggggagttc ccgtcccctg cctgatcagc 600
 agtctttttg cttccccctc caagagagct ggggggcat cctccaggaa gcctgatatg 660
 taacaaactc ctttcccatt tcttgctttg cttaaattctc caaagtccct ggagctgaag 720
 ccaagcgggc ctcattaggt ccactttaca gaaaagcaaa ctgagtctca aagaggggaa 780
 gtcactgagc cgggtacctg ccgcgggccg ctcga 815

<210> 24
 <211> 555
 <212> DNA
 <213> Homo sapiens

<400> 24
 ggtacctggg cttaacagta atagagaacc tcatttatac catacagaca cagcaactta 60
 ggaagacagc actgatagca tttagctagt tgtaaccaa tacaatatg taaaattgag 120
 aattatgatt aacatatgca actttagtaa taggaataga tgataatttt cctgtattgt 180
 ttcaaataag tgactgttca gctgggatcc attggattat aatttacaat gtcacataat 240
 attatgcttt tcaatattga tgagtgatgt aaacaatata aagttggcag tttgtagtag 300
 ttcagtatcc tagaaataca ttgaacttca taagtatcag ttcattttta agcatacaga 360
 attgaactga tacttactga aatcataaac tcagaggaaa caagcccatc tttatcacta 420
 attacttagc ttgaatactt ttctattttt aaataatcct aattattgcc ttttcaatta 480
 tagtctactg gattttattta tatgggatca acaggtattt atcaaacatc tactgtgtgc 540
 ccagcactac ctagt 555

<210> 25
 <211> 413
 <212> DNA
 <213> Homo sapiens

<400> 25

ggtacaagct	tttttttttt	tttttttttt	ttttcctttc	attgtccagt	cccatgaat	60
tatttatgtg	ttattaaatt	caactgaatg	agatttcaaa	gcaacgaaaa	ttgaagttca	120
aatgaaacca	aattaccact	ctgagctcca	ggtggccctg	acagcccagt	tttgtgaagg	180
gcccctgagg	ctgttctactg	aatctgagat	gtcaccaggc	atggagggtc	tctgatcagc	240
atccagagct	ccagagtagg	gagcaacccc	tcaccaccac	ttctggggccc	caggcaaggc	300
agagaccaaa	agaaccctgg	taagggtccc	caacctccat	gttcatttaa	aaaaaatgtt	360
taaaactgac	aaataataat	tgcataatatt	catgggggtcc	atcatgatgt	ttt	413

<210> 26

<211> 638

<212> DNA

<213> Homo sapiens

<400> 26

acttagaatc	gtgtgtccat	ctgaagccag	tgcagaggcc	aaagtcagtc	aattttaatat	60
gaccatcacg	atcaatcaaa	atattatcag	gttttaatatc	tctatgaata	aaacccattt	120
taaggaacac	ctttcaaact	gcacaggtaa	gtttctgctat	gtagaatcgt	gccagacttt	180
ctggaaagat	gccatttcta	attaataggc	tcatacatatc	accccagga	atgtagtcca	240
ttacaaagta	ttaattgtcc	ttatcttggg	atgaataata	tagacgaact	accattcat	300
tgtcagcttc	agccaggata	tctctctcag	ccttaacatg	agcgacttga	tttcgaagaa	360
gaacatcttt	atttcgaaga	gtttttgttg	catacaaagc	cttagtatct	acttttcttg	420
ctagacagac	ttcaccaaat	gtccttattc	ctagtgtctt	tatcttcaca	aacatagact	480
tgtccatttt	agccctttta	agacggatgt	aattagattc	tttttggcaa	agcatctttc	540
tcatttgatc	ctgggcatct	tgagataatc	caaccgcgat	catttcattc	tctaattggt	600
ttttacgatg	tagacgctgc	tgatgagatt	tgagtacc			638

<210> 27

<211> 236

<212> DNA

<213> Homo sapiens

<400> 27

ggtacacgtc	gttctcttca	agatctcata	gacaatcgtg	ctccggggtt	tgtgtctgaa	60
aaaggaatcc	ttatcagaca	agtcaaatag	atgctgcttc	tcccgggaga	agggatagga	120
gagtcctctc	atggctctggg	gcctgtgctc	agccactttg	ggctggatgg	gatctgtgat	180
tttctggagc	acagagttga	tttttttcag	gaggccacgg	gtctcattaa	tgtgggt	236

<210> 28

<211> 607

<212> DNA

<213> Homo sapiens

<400> 28

ggtaccacgg	gaaagatcag	gacttttggt	gcaccctttt	ccagctcctc	catgttacag	60
atcatatggg	cacaagtggg	aaaaatctcc	acggctcggg	aacgggttcg	aataccatac	120
acctcagcca	tgggtgaagat	cttatacatc	tctggggagaa	tgacaggagc	aacaaagtgg	180
catctgtgtg	tctgttactt	tcacgagtga	attctgtcag	cacacgcatg	gctccatgga	240
cggcatttaa	gtctccgctc	accaacatct	ccatgagcag	gttgaagagt	tggggccaag	300
cttcaggcca	gtcccagtg	gcaatggctg	acactgcata	ggccacactg	gagcgacttt	360
tgtttatcga	ttctctcaac	ccattaggca	atagctcccc	gataacaatt	tttgcccttt	420
ctgtagtttc	aggaggccta	aatttctctg	attgggcaca	ccagtgaagt	tccacatatt	480

gtttcaagat	gactgatgcc	agctgacgga	ttgccagtgc	cccctgggga	tctacagtca	540
gttctgccaa	gtgaacacca	aattcctccg	tcacctccag	caccttaate	tggtcttcag	600
cagccgc						607

<210> 29
 <211> 612
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(612)
 <223> n = A,T,C or G

<400> 29						
ggtactaact	cgctttacct	ttctgatatt	cgctcctaaga	ttttacttcc	tattatatag	60
tgtttgagc	ataccagggt	gaaggacctg	tcacttctta	atgaatggcc	ttggtcaagg	120
gtttttaaag	tttcagggtca	gaaatgtgga	tgtgaaaaaa	tggtttttta	gaccttcaca	180
ggcttactag	tatcacagca	ataaatgatt	ctaccaggat	attcttcgta	gacttagttg	240
gcctggaggt	agacttttaa	ggatataatc	gtgcttctga	ataaaaattag	ctaagaattc	300
aacattatgg	aattcaataa	attccagggtg	gaaatcagtg	aattaggata	cactgcctct	360
taaattctaa	accctatata	tcccacctgt	tgcatgtang	gggcatgtgt	gcatgtggca	420
tcaaaactag	ctgnggaccc	ttttttttcc	ataaaaatttg	gnctactca	tccttggng	480
aaaaancctt	gaaggnaaaa	tctggggtna	aaaaaaagct	ttgggctgtg	gaccaacctt	540
ccangttccc	ngggaaggga	ttnggaccta	gnaaaaannc	cntggaantg	gcttgggcct	600
tggattactg	cn					612

<210> 30
 <211> 286
 <212> DNA
 <213> Homo sapiens

<400> 30						
ggtactgtta	tcatagcagc	actatccaac	atgaaagtaa	tcttataatt	tgcatttgtg	60
cccactccca	gctctttcat	tttagcttca	atccacttca	tatttgttgc	agaccaaata	120
acaatgtcat	aatcttcata	ggcagatgtt	agaaaattcat	gaagatatgg	ccgcattaat	180
tctaccccag	tctctgcaca	agacctgtgg	tcaataaatg	tataatcaac	atctagcacc	240
aaaagctttt	tccttccct	gggaggattc	aaaatttcca	ctttgc		286

<210> 31
 <211> 606
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(606)
 <223> n = A,T,C or G

<400> 31						
accttatttt	gctgagctta	ttatataata	ccagagcaga	atagaaggta	gacccacggg	60
aattcaaate	ttggctgtgc	caccacttcc	ctgggcaagt	cacttctct	ctctgtgtcc	120
atttccaaat	ctttgaaatt	cagttagaaa	catcacttta	aaaacagggt	tggtgtgaag	180

atatttatgag	ataatgtata	aaataagttc	ttaccaagta	tcagctatga	tattttatgat	240
atatttagagt	tattaattat	actgtgagga	ttaaggaact	tggcagagga	atacagtagg	300
tgcttaaatg	gtatcctaaa	atattattta	aaaataaatg	acagtaatgg	gaataccgca	360
attacttttg	caccaacgta	ataatagtag	gatattttaa	gttgagatca	caggaatcag	420
tgcagatatg	tctcatttta	cccacaggtg	gcgctcatgg	ccgggttaaa	ttctgaaaaa	480
ccttaaaaag	tcccttgggc	gngaaccnnc	ttanggcgaa	ttcccgnnca	ctngngggcc	540
gtctaangga	nnccnatttg	ggccaacntt	ggggaaccng	ggcanaccgn	tcccggggna	600
aatggn						606

<210> 32
 <211> 615
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(615)
 <223> n = A,T,C or G

<400> 32						
ggtaactcatg	catcttcatg	agcagctctc	ttatcttctc	agtaacatag	tcacctcctc	60
actggaaagg	tctgtatttt	atactctttt	gggttaagtc	actggcagac	agaaacatca	120
atataccta	tcaggatgga	tgccacagtc	tgcccagtta	gctcattaat	tagataattc	180
tttaaaaaata	ttgacaaacc	attaattaag	agctgattat	tcacacatca	aacaattctt	240
cacttaaaact	agaggatttc	tttaaatagc	agctccccct	ggctgcattt	atctctttgt	300
gtaagtttat	tagctatttg	gcagagaaat	ttcagaatgc	cagctacaag	tcagtgcagt	360
tgaagaacag	aatgtaatgg	agggaaaagta	tttctggaag	catggcattt	attccaagaa	420
attatctaag	aatgnaattc	ctttggaaaag	tgcttaatat	aattatatat	gnaatcncaa	480
ttaattttctt	aaataantct	ngggaatggg	ccagattttc	tggtttggaa	aagcccgggt	540
ntttngaate	caaataantt	gnccaggctt	tttnntnng	nccnnggtng	accnggggtt	600
gattcaangt	ttcnn					615

<210> 33
 <211> 297
 <212> DNA
 <213> Homo sapiens

<400> 33						
acagacttcc	atctcccca	catcttgaag	atgtatcaat	ttttttaaat	taagaattac	60
tttaaacagc	actcatttca	gaagataggc	agaggttatc	aaacttctgc	tccaattctc	120
tcattattcc	aagggtcata	aaaaccactt	aggaagacct	tggttactgt	gacacatcac	180
agctataagt	gtaggtggcc	tagactctcc	ctatctctta	gctgccctga	gtcatgtgaa	240
ataagatagt	gaccttctcc	atcatcccta	gaggctctct	ccccgagaga	gagtacc	297

<210> 34
 <211> 468
 <212> DNA
 <213> Homo sapiens

<400> 34						
actgtttagt	gggatccatt	ttatacaggt	gacggtcagt	gacaaaaatt	gctctgtctt	60
ccaccttact	aaatcgattt	accttacgga	cgtgacagga	aaagaggaca	ttcatgtatt	120
tgtccttccg	tttcaattca	ttagcaacag	ggacaaaagt	gcctgaggtc	tgaggtgtat	180

ctggcctttga	agcaagatag	ttgccctccc	aggccctctg	gagccccgagg	tcagcccttt	240
gacccttcaa	catttccacg	gctgcaacct	ttgccctgac	ctggggcagg	tctgaggccg	300
gaatgctctt	gatgagctgg	gatgctctcc	atctattgaa	aatcgtctgc	agggcctcct	360
caaaacggcg	aagaacttta	ggagggcctt	gccacttcac	gtgcttcccc	tagtctcgca	420
tggtcttgac	gccatggaaa	cgtctggcca	cctcgtggat	gtacctcg		468

<210> 35
 <211> 314
 <212> DNA
 <213> Homo sapiens

ggtacttatg	gctccagata	aaatctctgg	tggccacatt	attcaagact	ttttaaagt	60
ctttatctga	aatatcttca	tagacatgaa	tatgaaagtt	ctgaaaattg	tgttcaatgg	120
cccgtgtgtc	ccagaagatc	ctaattgtaa	gatgcatatt	tataaagtaa	tttatagaat	180
aggattaaac	atatgtagaa	ctttattaag	aaaatataat	gactttggga	ccaattacag	240
gcccttgaac	agccacaata	ggctcaggag	ggctgtgctt	ctgtgtaaag	tccccctcca	300
gacaccacca	gggt					314

<210> 36
 <211> 600
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(600)
 <223> n = A,T,C or G

acccaatgtc	atgggaatga	tgtgcctgtc	acccccattg	gacaagctgg	ggaacagcca	60
taggggggacc	agcttctgcc	agaagttggt	gtctctcttc	aatttccaca	actatgacaa	120
cctgaggcac	tgtgctcgga	agttagaccc	acggcgtaga	ggggcagaaa	ttcggaacaa	180
gactgtggtc	aacctgttat	ttgctgccta	tagtggcgat	gtctcagctc	ttcgaagggtt	240
tgcttgtca	gccatggata	tggaaacagaa	agactatgac	tcgcgcacag	ctctgcatgt	300
tgctgcagct	gaaggacaca	tcgaagttgt	taaattcctg	atcgaggctt	gcaaagtga	360
tccttttgcc	aaggacaggt	ggggcaacat	tccccctgat	gatgctgtgc	agttcaacca	420
tctggaggtg	gtcaaaactgc	tttcaggatt	accaggaatt	tctacacaac	cttttgaaac	480
tcaggcttga	gggcacaann	tgaaggccct	nttcnaaang	aaacttttaa	aaagccttng	540
gttttaacce	ncgggtcant	gnnnaatccc	tggtttaana	aaaaancctn	gacttggccg	600

<210> 37
 <211> 516
 <212> DNA
 <213> Homo sapiens

ggtactgctg	taggaaagaa	attaaggaca	gttagtatgg	gcctgtgaat	tctggcatac	60
atgtttaaat	caattacaat	tatgcaagta	aaaaaaggat	atccccctact	aattcatgca	120
ggctgaaaag	tctagtatgt	aaacctgcag	cagaatctaa	ttttaagaaa	caggcaccta	180
atthttgatt	tgaaactcac	tcacctgagg	aaagcttcca	tcaggctcac	tatgccccctt	240
gtgctgactt	gcacactaaa	attagcaaaa	cagactccaa	ctattaaaaa	tatcaaaactc	300
ttcgtataca	tactttttgt	ttacttttaa	gtatgcttag	agcaaagtag	gtgcctttac	360

taagctatat	ttagagcact	atggggggag	ctctagtgtg	agaaacagtt	tctcaagggg	420
aacaatccta	aaaatctagg	atttggaatg	aaaactttca	ataatttgaa	agtattttga	480
gcagaaaaat	acatttgatc	caagtataga	aagcgt			516

<210> 38
 <211> 319
 <212> DNA
 <213> Homo sapiens

<400> 38						
actgaaagga	tgaaaagggtg	gtgtcatgtt	ttggggagaa	tcttacttct	caaattggaaa	60
ttgcactttt	tgctgaatcc	tttgcatttt	tttggtagta	agcagttcat	tgagtatcag	120
gtcctcaaag	gaatgagttg	gcccggctag	ggtagggccct	cttgacctaa	cttcagaggg	180
ggccttggt	cagtaggtgt	gaatcagga	agccacattg	tcctcagggg	gctgtatgaa	240
gctgggtgtg	ggcggattcc	tcccacacct	tcacactggc	ctgcctccaa	ctcatacaga	300
tctcggagcg	gtcgggtacc					319

<210> 39
 <211> 592
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(592)
 <223> n = A,T,C or G

<400> 39						
acctacactt	ggaataagac	actgttctga	atttgtgtca	tagttttttt	ttcatattga	60
cattaataga	ggcttctatt	gggggttaggc	taaaaatctt	ttgtaaaaaa	ttttaaatga	120
cactgctgat	ttttctccgt	taattatcag	tttataagct	aataaaaaact	ttggcttgat	180
attacattct	agtgggttaa	ttgtcatag	aaggaatatg	tgctgagtta	cttatgtatt	240
gtaatcttga	gattacgatt	ttttatttga	aaattagaca	aagtttggtt	ttaattttta	300
tttcatttta	ataattgagt	tcagattaaa	tgggaaggct	aaatttgaat	tcctgttttc	360
tctcaaaaata	ctgnttttct	attattttta	ggcattcctt	ggaggtctaa	aattgggcat	420
ttataggtgt	tgatgaaagc	acacccgatt	taaagaatgg	atgacccccc	ttctgnatna	480
aacctttaat	ngaattttta	annccaaact	ttgggtcctt	taaacctngg	acctcctttc	540
cnnaatccc	cttaaaaaaa	ncntnggcnt	tngcanaatt	cnntttgccc	aa	592

<210> 40
 <211> 577
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n = A,T,C or G

<400> 40						
ggtacagaac	ctaaagggtt	cactgaatgc	gaaatgacga	aatctagccc	tttgaaaata	60
acattgtttt	tagaagagga	caaatcctta	aaagtaacat	cagacccaaa	ggttgagcag	120
aaaattgaag	tgatactga	aattgagatg	agtgtggatg	atgatatcaa	tagttcgaaa	180

gtaattaatg	acctcttcag	tgatgtccta	gaggaaggtg	aactagatat	ggagaagagc	240
caagaggaga	tggatcaagc	attagcagaa	agcagcgaag	aacaggaaga	tgactgaat	300
atctcctcaa	tgtctttact	tgcaccattg	gcacaaacag	ttggtgtggt	aagtccagag	360
agtttagtgn	ccacacctag	actggaattg	aaagacccag	cagaagtgat	gaaagtccaa	420
accnggaaaa	ttccaagaac	tcgngtcctn	gactggatct	tgggganaac	ccttggttnt	480
taaaannggg	acntttttnc	cggcttgggg	cccntttaga	tttcaaagtt	tcangaaccc	540
aaacggtcct	tnattaaanc	cgnggattgt	tcgaagg			577

<210> 41
 <211> 490
 <212> DNA
 <213> Homo sapiens

<400> 41						
ggtacacaag	agtataggta	tataaaacta	aatgaagtca	atcatattga	ttatcccccc	60
aaaaaaaaata	taatctaaag	aataatcagt	tcctaaataa	ttgaaagctg	cccttacaaa	120
ataaaacaaa	agaacacaca	tttcgttgtg	ttgccccaggc	tggtctcgaa	ctcctgggct	180
caagcagtc	tcccacctcg	acctcccaag	atgctgggat	ttcgggacat	gagccaccac	240
gcccggggcca	aagctgcctt	tttttaacat	ggattttttt	tccccattc	gttgtgtctca	300
gaagtcattt	cctcttattt	ttctctgcta	atgtgtgctt	taacaaacct	gtttaaaacg	360
acaagccttt	aatcaactgg	ggtgttttgt	tttgtttttt	tcttattttc	ttaggagtca	420
gtggatcgg	ggggaaaatg	ctgcttacct	tgggccctgg	gctgtagaaa	gaagacacca	480
aaggcaaaagt						490

<210> 42
 <211> 571
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(571)
 <223> n = A,T,C or G

<400> 42						
ggtacttgcc	ttttaacttt	ccccacatt	actgttgagt	catggaataa	tgtttaagtt	60
gttatattgca	tggaaattaa	gtaggctggt	tatttatcta	aaggaatcaa	gtccactcct	120
ctgcctgcaa	catttgttca	aaaactaacc	aaggtaaaat	atttatattga	aagcccaact	180
ttgatgttaa	atattcttga	ataaatctgt	tattttaaga	atatcacatt	attcaatgca	240
tataaaacta	tcagaagtta	gtaaatcata	ccagcactaa	aaataagaca	attggaatat	300
atttttagcat	cagttttacaa	acaactttat	tatcaacaga	aatttttagct	cttttctttg	360
caagatatat	cacagctgct	ttgggcagta	gctgaagccg	aagtatgaac	agtccatttt	420
gtttcttaaa	atttgaagtc	gtgtctgtcg	tagcattttt	actaccagca	gtatgttact	480
taaaaaacta	catggctttc	cttgaattta	tttgaccgna	ttatgtaata	gacttgaaac	540
aattgccatc	tttgtagnta	tgcttggggt	c			571

<210> 43
 <211> 708
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(708)

<223> n = A,T,C or G

<400> 43

aggtactgca	aaaatgaagt	attattctct	aagtattcat	tttatccctt	tcatttcagc	60
aaaatcacac	atttgaataa	acaggatcga	aatacgacac	ttgtctttcc	tcttaattta	120
aggaatatat	tgttttagatt	attgttcata	ttagacaact	gcctcaaaaa	tgttttaatg	180
ccatccaata	aataaacttt	tgatagatta	tgactttttt	taattttaag	ttgttaagaa	240
tattaacttt	gagtctccta	ttaatatctt	aaaagctagg	attcaattca	gcagtttcct	300
ataacatttt	agaacccaag	gcataactac	aaagatggca	attgtttcaa	gtctattaca	360
taatacccg	caaataaatt	caaggaaaag	cccatgtagt	ttttaagtaa	ccatacctgc	420
tggtaagtaa	aaaatgctta	cgaccggacc	acgactttca	aaatttttaa	ggaaaaccaa	480
aaatnggacc	tnggtncctt	taccttttgg	gnntttcaag	cntaccttgg	gccccaaaag	540
ccaagcttgg	nggaatataa	tccttggcca	aaggnaaaaa	ggaagcctta	aaaantttcc	600
ngggngggaa	naantnaaaa	gttnggtttg	gnaaaaaacn	ggangcctaa	aaaattttta	660
tttncccaaa	ttggggccct	naaatttttn	aaagggcnng	ggganang		708

<210> 44

<211> 632

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(632)

<223> n = A,T,C or G

<400> 44

ggtactaggt	ctattaaatc	tacctgctta	aaaagggttt	gaactgaaga	ttccaggagc	60
tgagcagctg	cctcttcaaa	ggttttgaga	gtaacaaatt	ggacctggt	gtttttgcta	120
acagggttga	ggcgttgat	catgccctca	tggttgatga	tggccaggta	tgcaccgcag	180
gggtcacttg	ctatcccgtg	agtccttact	gagccaaaca	catctgagag	tttaatcaac	240
tgggtgttcaa	acttcaatgc	aacatctgtg	aaaatgggaa	tcagctgcct	cacctttccg	300
tacttgagc	aagtatagac	tgttccattc	tgtttgtctg	cagtcatgga	gacaattggc	360
agtgaagttga	aggcctgtga	catgggaatt	gtgaaccatt	nagccctgct	ttggagatca	420
gaagangaca	ccaaaattca	taagancctc	ttgcagccca	cttactaaag	ctgcnactac	480
actttttggg	aagggatgaa	taaangtggc	ccacatttng	atactngnca	cnagntaact	540
tgggnccatt	tcttttcnc	aagannacca	gggttgnctt	aaagnggaaa	tannctttna	600
cngntttnaa	aattnccng	gaaaaatttt	tt			632

<210> 45

<211> 664

<212> DNA

<213> Homo sapiens

<400> 45

ggtacccggt	ctacagtaga	gaggttttat	gaaaataaaa	tacaagacca	aattcaaaga	60
gcttttaaaa	ccacagagcc	agacaaatgt	gagaggttat	tatgagcaaa	caatgacatt	120
acagaagtga	aagtgtctaa	gtgccatcaa	gaacaagggc	tctatttcac	tcccatgtgt	180
caccataata	aagacagagt	ccctgatctt	aaaggcatca	atthttgccc	actggaagcc	240
ttaattgtaa	ttcatataa	cagcagcatc	ctaaaagtta	ctgccgtttc	taggaatcca	300
aacaactggg	tttaggtcct	aaagaatttg	aatcattaag	aaatttaaa	taccactct	360
gggccagttg	atggctgcga	agagagcaga	aggggtgctg	ctgtaggaaa	tcaatggctc	420

ggaagaccac	actgaggaag	gtgtgagttg	atactggaag	atctccaggt	ttgagggcatc	480
ttcagaggta	tatgggtggt	ttgtgtgtgt	tgaggggtgtg	gtagcgagc	agctccctag	540
ggaattagaa	ggtttttattg	aacattttacc	ctgtgacagg	cactgcaggc	attcagcgcg	600
cagtgtcatc	ttcatttttac	aggtgaggaa	aagactcagg	ttcaagtaga	tggtcaaggc	660
cagt						664

<210> 46
 <211> 633
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(633)
 <223> n = A,T,C or G

<400> 46						
ggtacgtgtt	tatgggatgg	gcacactaga	tgagatggaa	gaagatgtgc	cagtgatgtg	60
gagacagga	gtgtgggaga	ggagcaggta	gagctcagag	acggtgcact	taggcctgtg	120
gtcattgggg	gtgacccaag	tagccagcag	ctgcccagcg	ttttgtgttt	ctctcctggg	180
tccctaggag	tgggaatttgt	gtaagaacaa	tgtgtgaggt	tgtggcctgc	ggggcagtta	240
gcagttgtca	gaccgggtgcc	tggaaagtgtt	tcttggatca	ggaaatcagg	actgaaaggg	300
gcattaagtt	tgtctggacc	accctgtcat	tgtgcaatgg	ggagatcgag	gccttttggg	360
aggaaaggcc	ctgcttaagg	gccgtataat	tgaagtcagt	ggctgtgttg	gggcctttga	420
acctgccaaa	agctgggtgcc	tttctccact	cctcagtgtc	tatgccccaa	gtgaggggtct	480
agnccaacct	ctcccacttt	cctcccactt	tcactaagca	cctgctctgg	taggcccagt	540
gctgtatgct	gtgaactcag	gctgggttagg	tgctaattta	ttcaccagc	cagacattct	600
agtgtctcct	gcatggcagg	cactgttcga	agt			633

<210> 47
 <211> 433
 <212> DNA
 <213> Homo sapiens

<400> 47						
accagttgct	cctccatgat	ggtctgggat	cacagaggct	ccaagtgggg	acttcactac	60
ctagaccagt	cccccacatg	gtccctccct	gggctgcac	tttgctgtc	ttagtctcct	120
gtgttccttg	agaaagtgga	gtcaataaca	cctttctctt	caggttgttg	gagaacggct	180
cccagccacc	ttctgttttc	ccttctcttt	gagctctaga	ttcagggagg	ggttaaggca	240
agaccaggtc	ccagaagctt	ggctgagacc	agaagccagt	gcttactgtg	ctactgccac	300
cttcagcagc	aagggcccca	ccaatcaggt	ccctagattc	aggccccagg	tggagctgcc	360
ctcccgattc	tagggagcct	ctctacctga	aaggtgcaca	gaaaaacact	gcagaaaact	420
caccagcaa	ggg					433

<210> 48
 <211> 633
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(633)
 <223> n = A,T,C or G

<400> 48

acttcttcag	gtaacactgt	aaggatctcc	agcaaaaaag	gcaaagaagt	cacatcattg	60
ctgtatTTTT	ccaccagtgt	ttgcacacat	cccttccagg	aaggcatctg	tagggcaaga	120
tctgctattg	ctaaagccag	ctgcgttaca	ataacagggtg	acaagtcttt	caagttctgg	180
atatgggtta	gcaatgagtc	ccgtaaagag	gcatgagagt	ctgtggggag	ctcataaaat	240
gaggtctgaa	tcttcatttt	catggtctgt	gcagcaaaat	agcatgactc	cacatcctgc	300
cggatctgta	acaactggtc	tgagatctcc	catgcatgaa	ccgaacgctg	cagcttccca	360
agcnaaaaaag	aggngccgct	cctttcccg	tgggatctgg	ggtccgtggt	aaanccgcct	420
gcactggctt	ggtaccacca	ataaaggna	atttncgaaa	aaaaaanaaa	aaaaaaaaacc	480
ttggccggga	ccacncttan	ggcgaaatca	acacactg	gccgtctang	gatccactng	540
naccaacttg	gcgtancatg	gcnnactggt	tcttggggna	attgtanccg	ttcaaattcc	600
ccaattacaa	cccgannta	aannaaactn	ggg			633

<210> 49

<211> 624

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(624)

<223> n = A,T,C or G

<400> 49

ggtaccctc	tctcacacat	gtcaaata	aagaggcaga	aggagccaat	ggcaatgggt	60
ccgacttget	tccaataccc	tgcgatgtg	ttccgctcgt	gctgatccat	catgtgctcg	120
ccacagaaga	tgatccagaa	ggacagaagc	atcgcataga	agatgccctg	tcggatgtca	180
ccaaacagca	gcatccaggt	ccagtcaaac	ccgatggaaa	accattccac	tgggatattg	240
ataaagggtca	tggaaatccc	aagggcaaa	atgacttttt	tcagaagcac	cgggggtcgg	300
gacatcatgg	tgatcctcct	ccaataccac	accataatga	tgaagatgct	gggccgtaag	360
gaaggtcttc	atggcaaacc	acaccttgg	gaagcctcca	ttttggtgga	tccccaccaa	420
cccgatattc	ctttatctcc	caattcccac	attgatttct	tcttcttatt	cacaggcagn	480
cggatgttna	aangnaaaac	ttatggccac	agaccatttt	natgaaagga	agacttacat	540
catagtacgg	ccttatgctt	ggatcttgga	anntgagggc	attgagntcc	nggactgccg	600
gcgggcntta	aangnaatcc	acnn				624

<210> 50

<211> 733

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(733)

<223> n = A,T,C or G

<400> 50

ggtaccacaa	agacagaagc	ttcacaggaa	gagcgggtcta	attcaagcgg	cctcacatct	60
ctcaagaaat	caccaaagg	ctcatccaag	gacactcggg	aaatcaaaac	tgatttctca	120
ctttctatta	gtaattcgtc	agatgtgagt	gctaaagata	agcatgctga	agacaatgag	180
aagcgttttg	cagccttgga	agcgaggcaa	aaagcaaaa	aagtgcagaa	gaagctgggtg	240
cataatgctc	tggcaaat	ggatgggtcat	ccagaggata	agccaacgca	catcatcttc	300

ggttctgaca	gtgaatgtga	aacagaggag	acatcgactc	aggagcagag	ccnntccagg	360
agaggaatgg	gtgaaagaag	tctatggggg	aaaacatcag	gggaaagctg	gttggatagc	420
agtngatgat	gaccnaaatc	tggantcttg	naagaatgac	cggtnattan	ggntccaaaa	480
atttaaacc	ttangttttg	aaggggccna	aacttnggac	cnnaaanctt	cattgggatt	540
taaccaggtn	ggnacntttt	gggcacccca	ttgaccgcna	tttcccccat	tgggaccttt	600
tcgaatttct	tanaaaactt	ggnccnngga	aaaaagggaa	cccgggaaaa	agggtaaaat	660
ggaaaaggaa	aaacctggnt	tngggaaaaa	aaaaacnttt	gccccaaaaa	aaaaaangaa	720
aagccccctt	ttt					733

<210> 51
 <211> 565
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(565)
 <223> n = A,T,C or G

<400> 51						
acattaagtc	aagattgagc	tttgatttaa	aaggaacata	aatcctttac	attataaagg	60
gaagacataa	atctctccaa	tctaaatfff	ctcatcttgg	atgatgtcat	taaactgcag	120
ctcaaactga	gattagttta	gaattttatg	taaattacat	ctttgaacaa	atgagaacaa	180
ataactcatc	tgcagaatat	ataaagaacc	ttcatthaatc	aaaaggaatt	agacaagcac	240
ctagtgttaa	aaaataaatg	gtgaataatt	taaacagaaa	cctcaaaaaa	gaaaatatca	300
gagtggccaa	taagcacata	gaaagataca	caacatcatt	agtttttaag	agaactacaa	360
attaaagcaa	ccataaagat	acctcccaaa	cactacnaga	atgactaaat	ttttaaagtc	420
cgacagcggt	gtgcccgggt	tcccaatacc	actcagggtta	agtgatttct	ggaanggctc	480
cagaactcag	aaaagctata	cttgctatcc	tannngtatg	ggttgggtacn	gtggaaaaat	540
cccgggttaa	tcagggtaaag	accn				565

<210> 52
 <211> 637
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(637)
 <223> n = A,T,C or G

<400> 52						
ggtacgttcc	aaagaaccaa	ctgggttcttg	atctgctcct	gagagataac	cttcaaattcc	60
ttgaaatatc	ctgcatgata	agagtgaagt	tgtaaatgtg	gggccttcga	tcatgccaaa	120
tagtttatgc	taaccatgtg	atttatgggt	gggaacttga	ccatgctgtc	agtttgacat	180
ccggaggggg	cgagtgttaa	gtaactaagg	ttggccacat	gggcaatcca	tgcttctgta	240
actgaagcct	aatagaatct	ctagacaacg	aacagcttgg	gtgagcttcc	ctgcttgata	300
atattccaca	ttgntttctg	gaagaattga	acattcttta	cacagcttca	ctaggagcag	360
acaactggaa	atttgccctgn	ggnctctctt	tgggagaact	ctgggncttt	tacctggatt	420
taaccnggat	ctcttnactg	naaccaaccn	ttaccnttag	tatngccaag	gataactttt	480
ttgaagtctg	ggagtccttc	cgaaaatnct	taacctgatg	gnnttgggan	ccccgggaan	540
cttgnggcct	ttaaaattan	ncntnttgna	nggtgggggg	gntttaaggg	ggtttaattn	600
gagtncttaa	aactaagnng	ggggggnttt	ttttgggn			637

<210> 53
 <211> 632
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(632)
 <223> n = A,T,C or G

<400> 53
 ggtacatcca agatttgaag aactgaaata aatcagcttt aaacctgctt tttaaaaata 60
 tctgggttgg aatttgcccc tgacaaataa taaaatgatg agtgatgcaa gtgacatgtt 120
 ggctgcagcg ttggagcaga tggatggtat catagcaggt tctaaggctc tggaaatattc 180
 caatgggatt tttgattgcc aatctcccac ctctccattc atgggaagtt tgcgagctct 240
 gcaccttggtg gaagacctgc gtggattggt agagatgatg gaaacagatg agaaagaagg 300
 cttgagatgc cagatcccag attcaacagc agaaacgctt gttgaatggc ttcagagtca 360
 aatgacaaat gggacaccta ccagggaacc ggagatgtgt atcaagaaag gctggcacgt 420
 ttagaaaatg ataaagaatc cctcgggtctt canggttaagt gtgntaacag accagtggan 480
 gctnanggag agaaaaatcna gaattggagt ttggcttgaa aaccncngaga gaattgaatg 540
 ccccgaagaa tgctgcacag gagctntaat tggacttctt aaactcnaan ttggactgan 600
 gctgaaantt acctgagttg actgnnntgg tn 632

<210> 54
 <211> 661
 <212> DNA
 <213> Homo sapiens

<400> 54
 acaatagaac tttcagaaaa ttctttactt ccagcttctt ctatgttgac tggcacacaa 60
 agtaaggctg ttgctttcaa tgcattgcaat attacttttg agtggtttact aactctgtgt 120
 tttgcttacc tggcttttct tctttgaagt tgcttaattt tttttcctcc aagaggaatt 180
 atttaaaaag acttttgtct gtgacataac caagatttat tctgtttacc taaggaactt 240
 attttctttt ttgcaatttc atttattctg agtcacttta tttgtaataa gtgaagaatt 300
 ttaatactta gaaataagtt gtaaagaaaa taatgagaat cttaccatgc tttagaggaa 360
 cggtaatttc tagaaatagt taaaagatga aataactaaga tattatttta cttcttttat 420
 atagctgtat atactggtag tatgaaagca actagtgtca ttgatgattt tttggggggg 480
 tatttttgta ttctaggctt gctgcaacct catttagaga gggttgccat cgatgctcta 540
 caggttatgg tggttggtac ttccccccacc aaatcgtaga aagcttcaac ttttaatgcg 600
 tatgatttcc cgaatgagtc aaaatgttga tatgcccmaa cttcatgatg caatgggtac 660
 c 661

<210> 55
 <211> 628
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(628)
 <223> n = A,T,C or G

```

<400> 55
acaactgcct acattctttc tgtttatcac ttcagttaga agtgttacat tcccaaactc 60
taatgttaat ccgagaacgg tggggagacc ttgtgcaggt ggaaaggtat catgctggaa 120
agtgcctctc cctttcagtt tggaatcaac aggttcttgg gagaaaaact ggaacagcat 180
ctgttcacaa agttacaatt aaaattgatg agaatgatgt ctccaagcct ttacagattt 240
ttcacgatcc tcctttgccca gcttctgatt ccaaattagt agaaagagcc atgaagatcg 300
accacttata aatagaaaaa ctcttgattg acagtgccat gcaagagctc atcagaagct 360
tcaagaactg aaggccattc ttagaggctt caatgccnat gaaaactctt tcatagagac 420
tggctccagc tcttggtggt nccatcttgg agccctgnng naattcanan tggctgccat 480
tttgnagaat tacattcttg gaaggntcaa tggagcttta tngacttgnc aggccctntg 540
ggtgaatggg aanctnggat gagatttgaa ccaatntacc cggattanca cttaagtttg 600
nttggcaaaa ngttcaggcg nntnaaaaa 628

```

```

<210> 56
<211> 635
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(635)
<223> n = A,T,C or G

```

```

<400> 56
acctcagctg gggaaccgtc ctagaaagag atggccacta tgctgtagct gccaaatgct 60
atthaggggc cacttggtgt tatgatgcag ccaaagtttt ggccaaaaag ggggatgcgg 120
catcacttag aacggctgca gagttggctg ccacgtagg agaggatgag ttgtctgctt 180
ccctggctct cagatgtgcc caagagctgc ttctggccaa caactgggtg ggagcccagg 240
aagccctgca gctgcatgaa agtctacagg gtcagagatt ggtgttttgc cttctggagc 300
tactgtccag gcatctggag gaaaagcagc ttccagaggg caaaagctcc tcctcttacc 360
acacttggaa caggggcacc gaagggtcnt tcgtggaaag ggtgactgca atgtggaaag 420
aacatcttca gcccttgaca cccctgaccg tattanggaa nccttnanaa acttgagaac 480
attnagtacc ttgggcccga acacccttan ggcgaattcc acnactggg ggccgtacta 540
nggggntcca acttggggcc ancttggggg aanatnggcn aacnggttcc ttgggaaatg 600
ttacccttcc aatcccncaa ntnaaccgg aggnn 635

```

```

<210> 57
<211> 345
<212> DNA
<213> Homo sapiens

```

```

<400> 57
actgcttgga tcctgctctc tccaagctgt gcacacacat aaggcagatg atgaccattt 60
gaaagatgag aaggtccggg aggaaagcat atccactctc atactcctcc tcatcctcac 120
tggccaggct gaggttgggt gaggagggca ggtagaagag gcagaggttg aagtcctcca 180
ggactgactg gcaaagttag gtcagctctg agtccacgga gctgcttttg ggctgtagga 240
ggctttgcag atacataaag ttcactagca accttttaac gtctttacat cgctttttgc 300
caggagacag ttcccgagtc tcacacttct tcagttgggtg gtacc 345

```

```

<210> 58
<211> 638
<212> DNA
<213> Homo sapiens

```

```

<400> 58
ggtaacttcct cttcctctc atcctcacta gaggtcttctt ctgcggcatg attagacctt      60
ggggggaggag cagtggcagt gccatctgcc ttctggatcg atggcttctg acagatgtat      120
ttgggggtccc ttccaagatt acagatttct tcaagtaact tgatgatggc agtcgttgca      180
tctgtttttaa ggggtgggctg atgtctcatg agctcatcga cagcactccc cagggtggat      240
gcagtatccc caaggggatc agaacttctc ctccctccgca tggctgggag gtaatctgga      300
gacagaagaa ctttgaagag gcgttcaaaa ggctgacact gaacaaaaga ctgaagacct      360
cgggcattca aacagagtgc actgaatata tttgggaggg agccaaggac ttcacgggta      420
gcaggaacat ctttgataaa gcagtgcagt cagcatgaca tctggcaatc cattgtcctg      480
gagtgaggag agcagtgatg gttcttgaaa tacaaacaca gtcaccactt cagtagctag      540
gaggaagagt gatgggccac agtattctgc attgctgatg atgtgtttca gggaggtagg      600
cagagaacca tccatcacat gtcgtatgcc atctgaga      638

```

```

<210> 59
<211> 728
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(728)
<223> n = A,T,C or G

```

```

<400> 59
gcgtgggtcgg cggccgaggt accatgcca gctaattttt ttacttttag tagtgacggg      60
tctcactgta ttgcctaggc ttctcaaact tctggactca agcaatatgc ctgcctccgc      120
ctcccaaagt cctgggatta caggcatgag ctaccgagct cagttttgaa aggtagaagt      180
gtatgctaca agggatgtag gacttgagag tcaaggccta tggctctgtc ctggctctac      240
cagtaagtgt gaccttcgat gtttttttct caagtaaggc tggtaataat taccacagtt      300
gtgagaattg agaatttgga aatgcagtga aagagactat actcaagtct tgttctggac      360
taacagtgat cttaaaatct ctcatttcaa agaaataaag tattttgatg atctcttgca      420
tggngtatt aataaacctt ggnataatgg cagaaactgt acctacaaca gggttaccgt      480
taactctttt tggaaggtgg tttggaaaaa naaggaatgg acccttgaat cttggaagaa      540
cgttcaancc tcatgacnta aggaaaaant tggaaaaggg ccattggnga ncccaaggac      600
ccaatgcccn tgctcttnaa aagggaaaag ggggaccang ggntcaaaat tggaaaaaacc      660
gtttttccng gaaatccttt gggccccntt nnaaaggtcc ccaccttngg ggaattttga      720
aaaaaaaaa      728

```

```

<210> 60
<211> 581
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(581)
<223> n = A,T,C or G

```

```

<400> 60
ggtaactggcc caaggcaaag atggagaata tgaagagctg ctcaattcca gttccatctc      60
ctctttgctg gatgcacagg gtttcagtga tctggagaaa agtccatcac ccactccagt      120
aatgggatct ccagttgtg acccatttaa cacaagtgtt cccgaagagt tccatactac      180

```

catcttgcaa	gtttccatcc	cttcattatt	gccagcaact	gtaaacatgg	aaacttctga	240
aaaatcaaag	ttgactccta	agccagagac	ttcatttgaa	gaaaatgatg	gaaacataat	300
ccttggtgcc	actggttgata	cccaactgtg	tgataaactt	ttaacttcaa	gtctgcagaa	360
gtccagcagc	ctgggcaatc	tgaagaaaga	gacgtctgat	ggggaaaagg	aaactattca	420
gaagacttca	gaggacagag	ctccggcaga	aagcaggcca	tttggggacc	cttccttcca	480
ggcccccagg	gcaggacacc	tcatggatga	caacccttcc	gnactcgaaa	agtcagactt	540
tcttttggcc	cgggcttttt	taaaatccaa	agttacnaga	g		581

<210> 61
 <211> 681
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(681)
 <223> n = A,T,C or G

<400> 61						
acgagcccaa	gccctgttcc	atcagccaat	tgcaaacctg	ctccttggtc	cacttggcaa	60
atggcatatc	caagtcactg	ttagactgtc	ccaagtctcg	agaccaacct	aatcggggcc	120
ccgcggttgc	ccttgctcct	cctcttttga	attcaggctc	agacatgtca	tctgggttga	180
atgtagttga	ttgacttctc	ctaagttttc	caaagagttt	catgatacct	ctggatttct	240
ttttggaatc	tggagatgga	ggcggatatc	ggaagggact	gttcctctgt	gaatcttttg	300
gccgagaaag	aagcaccagc	cagatctagg	tgctctgctg	notctttttc	tgnttcaact	360
aaatttggtg	cacttgctgg	tctcttggtg	cttttgattt	taaaaaaagcc	ccngccaaaag	420
ggaanactga	cttttcgagt	gccnaaaggg	ttgcatccat	ngangtgctc	tgcccttggg	480
gcctgggaag	naaggtccaa	atgggctggt	ttctggccga	ncttttggtc	tttganncc	540
ttctggaaaa	gttnccnttt	tcccattaaa	cgntntttct	tnaaaatggc	ccagctgggt	600
ggacnttttg	naacttgaag	ttnaaagntt	ttcccccant	tgggnnttaa	caggggggncc	660
cagggatatg	ttnccttant	t				681

<210> 62
 <211> 569
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(569)
 <223> n = A,T,C or G

<400> 62						
actgggatta	caggcgtgac	ccaccacacc	cggcccctaa	ccactcttga	aagtcccttc	60
acatctgtta	gttctttaag	gatgaaggct	gagaattaac	cttggtccct	attccccgaa	120
gtgtctgacc	cagtgtctgaa	tgtgtggctg	gagcttgggtg	aattctttcc	aaataaagga	180
attcccacaa	cagccccacg	aaggacttga	ggcaaggatt	aggatcccca	cttacagaag	240
aggaggacaa	ggcccagaga	agatccccc	gactcagcca	gggcacgagg	ggtcgggtga	300
gttttgagat	cgatagagcc	ttcttttcaact	ctcctgtgac	gacatgacag	tagataaaaa	360
gcatatacct	tcatgcactc	tcatgggctc	tggcaccatg	tttagagtcg	ggctagggtt	420
ctttgcaatc	tggtaaccta	tggcttaaac	ttatacccaa	acctctcttc	ctgcttcttg	480
nctgtgcaca	tctctttcca	tcagaccatc	catagctcaa	gctcaacagc	tttnccagct	540
agtntectn	ctccttttnc	atggagtgc				569

<210> 63
 <211> 650
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(650)
 <223> n = A,T,C or G

<400> 63

gaggtacaat	ggaggtatct	gtgggaagga	aaatgcaggt	aaagatgaag	aggaaaatct	60
gccttgtaa	agcccagctc	cccaaagtat	tagacacatg	aatttgcttc	tgtgctgagg	120
ccatctgtgg	cogtcaggct	agctgttttc	tggctgatac	tttttgggaa	tgttattgtt	180
gctgagaaa	atagttccat	gtcagagcta	tcaacagaat	gtggccatct	ggacaaccat	240
gtataaacca	acttattgct	tcttgaatgc	cacctacaaa	catgactacc	tgtcctttct	300
tgtttgaagg	ggcactaaca	atacttggga	agatggaaa	tgaactggac	attaaggcag	360
agatgaagaa	ttctgccttg	cttcctgcac	tccatggaaa	aaggaggagg	acactanctg	420
ggaaaagctg	ttgaaccttg	aactatggat	ggnctgatgg	aaaaaggatg	tcncngacca	480
naacnngaaa	aaaagggttg	gtttaagtta	ancctnaggt	acccgaatgc	aagaacctac	540
cccactttaa	catgggcccc	anccttaaaa	gcctnaagnt	atgnctttat	tcnggattnt	600
ncccgaang	naaaagnntt	ttgantnaaa	attncccnc	ccnggccggg		650

<210> 64
 <211> 676
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(676)
 <223> n = A,T,C or G

<400> 64

cgaggtgcca	attggggagga	accttctttg	gatgaggggtg	ctcgggtttag	caatatcaag	60
gtgtgggtcc	agataattca	atcatctaata	taagattcca	gttatgctaa	tctgttttaa	120
aattccgttt	gtgtaaattc	ttttacaaa	cctcaacccc	aatttccagg	gagggttcag	180
agcctcaggt	tgagttgatg	accaacagcc	tatagttaa	cccatcatgc	ctctagagtg	240
aggtctccaa	aaaaatccaa	aaggaatagc	tgtagagagc	ttctggataa	cactaactgg	300
aaggtagagc	gccactccaa	acaagacggg	accaaaaaatt	tttctgaatt	tttcgcaata	360
tctgcaacaa	taaaatggga	aatgtaatgg	ccctcctacg	tgttgggagc	tctttcagcc	420
aatggatgcn	actattacna	ggantggtgg	aaacctggat	tataaccagc	tgctgaaaaa	480
gccagtaaac	aacgtaaggc	tttcattggt	aatantattg	gaaggacagt	cntgtgggac	540
ttcggccctt	tgnaactaat	ggtatgcccc	gnanataacc	gtnccttgg	atttcaagac	600
cccctttggt	tggnanaatt	tttgggcatt	tgcttgctgg	cttaattacc	attggaatca	660
aatcttttcc	ggccnn					676

<210> 65
 <211> 660
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(660)
 <223> n = A,T,C or G

<400> 65

acgtggcctg	aagagatggt	attcttttaa	atgggtctcgg	ctgtgggcga	ggtgccccca	60
tacaacaact	ctcgggctat	catggcagtt	accgtggcct	tggcaggatt	cggagctgcc	120
ctggtaaaat	ctttgggtg	atgtccttga	ctaactccta	cagcctgggc	gacctcgggc	180
accatgggaa	gaattccagc	aggcagctgc	tgatgactta	gataaggcat	cctgaactca	240
tcctctttat	tactagtccc	attttcatcc	ccagagccag	gttcaaaaaa	ggttactttt	300
cttccatccc	ctggtttctt	tatgggtgtc	ttctcctctg	acttgagtgc	cggtttggtg	360
gctgcgcctg	cgggactttg	aaacccagga	tcttcaacat	gntctcgtcg	cattgccttg	420
gccaccttct	tgtggtgccc	gtccttntgc	aatggggggt	ctaacccttna	cctgnatnac	480
aaacttcctt	ncgcncggga	aggctnctt	cntgaagaac	gtgtaccttg	ggcgngaaca	540
cgcttanggc	gaantccacn	cactgggngg	ccgtactann	ggaatccaac	ttcggaccaa	600
cntggggnaa	catggcaaac	tggttcctng	ggnaaatgta	tccgttacia	ttccncana	660

<210> 66
 <211> 678
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(678)
 <223> n = A,T,C or G

<400> 66

actcaaactt	catcagcagc	gtctacatcg	taaaaaacia	ttagagaatg	aatgatgctg	60
ggttgagata	tctcaagatg	cccaggatca	aatgagaaag	atgctttgcc	aaaaagaatc	120
taattacatc	cgtcttaaaa	gggctaaaaat	ggacaagtct	atgtttgtga	agataaagac	180
actaggaata	ggagcatttg	gtgaagtctg	tctagcaaga	aaagtagata	ctaaggcttt	240
gtatgcaaca	aaaactcttc	gaaagaaaga	tgttcttctt	cgaaatcaag	tcgctcatgt	300
taaggctgag	agagatatcc	tggtctgaagc	tgacaatgaa	tggttagttc	gtctatatta	360
ttcattccaa	gataagggcc	atttatcctt	gtaatggcta	cattcctngg	ggtgatatga	420
agagcccat	aattanaatg	ggcatctttt	ccagaaaggc	tngcaccaat	ctaccttagc	480
cagaacttac	ctngnccngt	tgaaagtggg	ccttaaaaatg	gggtttaatt	cttagagatt	540
tttaacctgg	ataatatattg	antggaccgn	gaagggcctt	attaaaatgg	cttgctttgg	600
ccttngactg	cttnanatgg	ccccccaatc	taagtncttg	ggccggaacc	ccttangggc	660
naattcagcn	cactgggg					678

<210> 67
 <211> 695
 <212> DNA
 <213> Homo sapiens

<400> 67

ggtactatgt	gtgaagaaat	ggagaaaagg	aaaaatcagt	gtagaaaaat	aaaaaaagca	60
agagtgaggt	tggtgcctac	agttcacagc	atgtgataag	gactgagcat	ttattctatt	120
atttggtcat	aaaaatgcag	gctgtaagg	cctacacaca	ccagcttatc	gcagacttgg	180
ctctgagctt	tcctgcagcc	aatacaaaac	gggagacaca	acagagaatt	gccaatgctg	240
gaagctagat	gtctaattgct	gatcctgctt	gtgactaaag	tctgaatctg	ggctaagtca	300

cacatgtcct	gacactctgg	aagctctgtc	tgggtgggtct	gggaacgggg	gagaagtgaa	360
agaggaagta	gcaaggaaag	atgcagaggc	ggagcctggg	agctagggca	gtgccagggtg	420
ggactgacat	ggcaccagga	gtccctcctg	cagggatctg	tcctgattca	ggtcagctgc	480
atcctgcac	tctaggggaat	gagaccacat	ctgcaactca	ccaggactgt	tcactgtttt	540
ttccaccccc	caatctcact	cccactcaat	cccttggatg	tgggaaggag	aaatacttaa	600
gctgaatgtt	gctgtggccc	atgtgatgac	aggttaccag	tgtgggggat	gacccccaat	660
gactgcaaga	agtgggccag	atgtcagaag	tgggt			695

<210> 68

<211> 579

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(579)

<223> n = A,T,C or G

<400> 68

ggtaccaagg	aagacattca	gagtgtgatg	actgagatcc	gcaggtcctt	tggagaggta	60
tgttttactt	tagtaaatgt	tagtttatat	ggtaattttt	cctttaggaa	aatctgactt	120
tttatagtga	tttgcttaca	ttatttacac	ttctgagtta	gattttgttt	gaacaaaatg	180
ttctgtgttt	attaaaaaaa	aaaaaaaaaa	aagaagcagt	agcttgtaaa	attctgcttt	240
agcctgtatt	ctgaaggaag	aatgccttag	agtaagtctg	acttcagaat	atztatgcag	300
taaaactgac	agtattcttc	atcctaacaa	ccttatggta	gaatagaaag	aacagtggac	360
taattatcag	gagacctgac	aattagttct	agtcattgtt	gtgtcgacag	ttagctggag	420
gaccttgaat	ataagttcct	caacctaaact	tgacatcagt	gnttttcacc	tataaaaataa	480
attaaaatag	gtaatgatta	aatactctta	aggctcttat	attangnaat	ggactgggat	540
tgagtaataa	atacctaata	gcccttcagt	taattnaaa			579

<210> 69

<211> 661

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(661)

<223> n = A,T,C or G

<400> 69

cgagggtacaa	gctttttttt	tttttttttt	tttttttcag	aatgctaaat	tctattttttg	60
tagagcagag	actccattaa	aaactcccaa	atgacaaaact	agaaaaaaaaa	tttacaacac	120
tgtgtgaaaa	tcanagtgtg	attttcctta	atatacaaag	agctcttgca	aaccaacaag	180
aaaaacacaa	atacccaaat	ggaaaaatca	acaaaggaca	ggaatagtta	gttttcagaa	240
aaagaaatat	gaattaccaa	taagtgtgaa	aatgggtgctc	aatgccatca	tgattaaaga	300
aatgtaacca	aaacagtggg	gagcccattt	ttcatgtggc	agattactca	attttagtaa	360
tttattctga	aaacaatctc	ccacaagtgt	atacttcac	ttgnatgcnc	aaggaagtac	420
aagctttttt	ttttttttnt	tttttttttt	ccttggctgn	agtcatgagc	cttttgaaaa	480
aggcctccaa	agtaaatntt	tcagggggaa	taggggaaagt	ntttttttta	anaaggcngt	540
gattntaant	tccccgggac	tatggtgaaa	tactntggaa	aaattnaant	ggtccatggt	600
ggccnaaatg	gngetnttta	aaanggnngg	gaaaaaantt	tttgngggaa	aatncccaag	660
						661

<210> 70
 <211> 697
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(697)
 <223> n = A,T,C or G

<400> 70
 actgagtttc cagaaagcgc agtgcacttt tagtgcgcca aactggtaat ttgccattta 60
 gagaattctt cctaaagtag attatttctg ttaaagcaaa tcaactattcc taactgattt 120
 ataatttttg taaatctaaa ttttcatgaa ataggcttat aaagcgtgcc acatttctgt 180
 tttctoctat ggacaggaag aaaaagttag atggggacag aaggacagaa cagggtgcgg 240
 aaaccatagg ataaaagctg tgggttttcc cccaaaagt gctcaaaaga ataatatgac 300
 ttctgctttt cttctcctct ggggtggcaat tgggggaatcc agcagcctgt tgagaggaca 360
 gaattgggta agttgtggag aggtgcagtc taattggtaa atctttaaaa gtcttggttg 420
 tctaacctgc tggtttttct gctcacagcc cctgcagata tcttctcacc taccttaacg 480
 ctggcatgca aggnntttct ctttgctgag tggcatttng gtttaattcc atgttnaatt 540
 ctaaccttgg ccatgattac naagccccct ctatgggctt gctttgagtt angccctggg 600
 gctttaagna atncctanaa ttcnccntt ctnnattctt aagggtcttg anatnccaaa 660
 atgatnganc ttgacnttgg tttgggaggg naactna 697

<210> 71
 <211> 705
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(705)
 <223> n = A,T,C or G

<400> 71
 accacacagt caatgatgtc agccactccg agcttttaggg tcctgggagt ggcagtaggt 60
 gatagctctg tctctccaaa aagcaaaagg atcctgcttg gggacacccc aagggtgggtg 120
 gccatgtggt ccaccacact ctgcaggggc tccgacatcc tgaggggcaa tctgaccagg 180
 tcagcccggc aacggatttt gagtgggaag aggcttccta gatgacgggt gatgaagccc 240
 aatcttccag gtggagagga cagcatgacc aaaggaagga cgtggaggtg acatggcatg 300
 tgcagggaac tacactgaac actgcagaga gccactggca ggaccagggc caggagcac 360
 ctacttggtc atactgggga gcttggcctt tctcttggtg gtctggagat cccaaaagaa 420
 tttatgccaa aaagttagag gtggatagat tttaaatact ggggttttta aatacccgan 480
 ggattttaaa tactcttgat gggttaatct aaatttangg ggaacccaaa ctggaggcnn 540
 ntnaaaaggc cccttataag tggaaaaant gaaaagagnt tgnattangg cnnccnaaat 600
 ttntgggtggc nttttaagtn ccnttngatt tcccannaaa attnaatcng ggggatttta 660
 atcccggaat tgggggaana aannnnggaa gggttnccaa ttttg 705

<210> 72
 <211> 683
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(683)
 <223> n = A,T,C or G

<400> 72
 actgaatgaa gtaaccgaag acaacttaat agacctgggg ccagggtctc cagcccgtgg 60
 tgagcccaat ggtggggaac acagcgcccc catcttccct ctctccag cttgcaggct 120
 tagacttggg gacagagagc gtcagtggca ccctcagttc actccagcaa tgtaatcccc 180
 gtgacggctt tgacatgttt gccagacga gaggaaactc cttggctgag cagcgcaaga 240
 cggtaaccta tgaggatcct caggctgtcg gaggacttgc ttctgcacta gacaatcgaa 300
 aacagagttc agaaggggta ggtctttaac cctgtttttc tgctggagt cttctggagg 360
 gaaagtcagg tggtttggca aaactggctg ggtaattcag cagaaactgg cttgcacagg 420
 gggcanggac accctggggg gaaaaaccna cgggggacac cccgtggaac ccaagtantg 480
 ccttatttga gtcttnacct naccctgtga gataaggccc ccatgagctt tccaatccac 540
 ccaagagaaa cnagtncagc nggtgggana cagcttgnac nccanaagc nnacngaagc 600
 cgggttccaa tctnggataa gggcntttcc aaancctggt ggtcttacca aagggcccaa 660
 ttttcaggcc aanttttntg gnn 683

<210> 73
 <211> 566
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(566)
 <223> n = A,T,C or G

<400> 73
 acagtgtgga aatttcaaca tgtatataca tccgtgaaac cattatccca atcaacatca 60
 tgaattttaac catcacccca aaaagtcttc tcatgatctt ttgtaatacc ttcctctttc 120
 ctgtcccgtc cccacaacc gtctgttttt tgttctatta gtttgcattt tctagagttt 180
 tatataaatg aaatcaatac attatacctt ttttgtctag ctcttttcac tcagcataat 240
 taatgtgaga gctgtccatg ttgtctaata tattagtagt ccattttctat ttttgtgggg 300
 ttgggcaggg gctgggtagt attccattaa gaggatacac tacagtttgt ttattcattt 360
 tcctattcat ggatgttttg gttgtttctg gtttgaggcc tataatgtca cttgaagata 420
 gattgtgatg ttaaagggtg atactgtaaa ccctaaaata gtcactaaaa taacnaaaac 480
 gaaaagggtat tggtataaag ccaacaaagg aaataaatca aatcataaaa tacnaaagaa 540
 agcngaaaaa gaccaagggc acctgg 566

<210> 74
 <211> 690
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(690)
 <223> n = A,T,C or G

<400> 74

cgaggtgtac	aagctttttt	tttttttttt	tttttttttt	ggctccctgt	agcctcgact	60
tcccagcaat	cctcctgctt	cgcctcacag	caggcacacg	ccaccatgcc	cagctaattt	120
ttgtattttt	tgtagagaca	gggtttttgcc	atggttgcccta	ggctgggtctc	aaactcctgg	180
gctcaagcaa	cccatctgcc	ttggccaacc	aaagtgtctg	gattctaggt	gtgaaccact	240
gtgcccagcc	aatctctgtc	ttttaaatga	gggtgtctgc	atcgtttgtt	tcacatggnt	300
atntaggaact	aactctatca	ttctgctgct	cagtaatttt	gtttgccagg	ctgcctttgg	360
tctttttctg	ctttcttttg	nattttatga	tttgatttta	tttcctttgn	tggcttatta	420
acaataaact	ttcgtttttg	taatttaagn	gactatttta	ggggttacag	tatgcacant	480
taacatcaca	atctatcttc	aagtgcatt	atangnctna	aaccngaaac	cacccaaaca	540
tcntgaatng	gaaaatgaat	aaccaactnn	annnggaanc	cttaaaggaa	actaccaacc	600
ctggccaanc	cccaaaatng	aaaggcctct	aatccnttna	cacntggggc	ggtttncata	660
atntcntggn	gaaaaacttt	cccaaaaggn				690

<210> 75
 <211> 447
 <212> DNA
 <213> Homo sapiens

<400> 75						
ggtacaaact	gtgtatttca	catctggccc	ccaaggatg	taagggaata	ctttaaataa	60
atctttaagc	tcctcaggtg	acaaaagcaca	gtctctatcc	aatcatgct	tgtcaaaggt	120
gctttggaga	aataaatatg	catgatgatt	taattcagta	gtgcaatcag	gaggtatttt	180
cagcaggggg	aacaaatatt	caggtgtcaa	atccagggtca	tcatacataac	caaatacgctc	240
aagcacagtc	caagtagttt	cgtgtctccc	tctctggata	aaaagtgtgt	gtaaaaagag	300
aaaacctttc	agggccaacc	cactgtcagc	cacaccatca	cttatatgtt	ttctgactac	360
attcttgaca	tcctccagag	cttgaggagc	taatggagtg	ttgaaacaaa	tcctctgaaa	420
gaagttgagt	tcagcatcat	tgagagt				447

<210> 76
 <211> 674
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(674)
 <223> n = A,T,C or G

<400> 76						
actgttaggt	aattttgata	ttttacttag	ttggtttctt	ttgttttttg	agacaggggc	60
ttgctctgta	gcccaggctg	gactgcactg	gaactcctgg	gctcaagcaa	tcctcctgcc	120
tcggcctcca	agtagctggg	actactacag	gcactcacca	ccattcctgg	ctaattttta	180
gttttagttt	gtagaaagta	agactaaata	cactggatca	ttcagaatgt	cagaaagtaa	240
tgttttcctc	agtttatatt	ttcttaatat	cacacacccat	gttattgggt	tgtgttttgt	300
tagtgcttgt	aactagagtg	caacttaatt	aacaatttgc	tcctcctcat	gaggttcattg	360
gcagtataga	cttaaattct	agtcccatgt	ttgncattta	ttagctgtgt	gctaagactt	420
ggttttccta	tcagcagaat	tgctatgtat	atctaagggt	atgtaagggt	ttcaaaccag	480
gaaccctctt	tgtaagtga	aggtgggggg	gagctattgg	ttaaattttt	ggtcagaaat	540
tggcatacct	aatttaatta	ctaccttact	aaangnatca	attaccctca	tctatttcan	600
nggtttaatg	ggnccaagt	gaatattcct	ttacttaaaa	gccagtttta	ctgggaaatc	660
ncttancaag	gntt					674

<210> 77

<211> 441
 <212> DNA
 <213> Homo sapiens

<400> 77
 acatggtctt ttgttcccta aaagactgca tcacacctct gattgggagg ccaactgtca 60
 ttttaactgag tgtttgagtg tctaaaacca agttcagcat ttgtctatct agcaagcttc 120
 cctttccaac ttgcttactc ctctcaattt catctgcaga tctcctgggt caataaggct 180
 caaaaactgg ctgttccctt gcattcctct ctcttctccc aggcactctt catccttttt 240
 tctctcagge tcacccttac aatccaacac cttccaatgg cctctcctag tccagtccat 300
 cctgacacca agtaactggc ccgctttgga agtcctgaca ctttcagtcc ctctttcctg 360
 ttctttccac tttcctcggc ccccaggagg atcctggatg gtcgtcacag ctgacaaatg 420
 atgagcagaa tgccctgtac c 441

<210> 78
 <211> 623
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(623)
 <223> n = A,T,C or G

<400> 78
 ggtacacgat taacttaaca caaaaacccg aacttcaaaa tgaaggtgtg tggaggaaag 60
 gtgctgctgg gtctccctac aactgttcat ttctttgtgg ggcagggggg agttcctgaa 120
 tggctgtggg ccaatgacta atgtaaaaca aaaacagaaa caaaaaaac aaggaactgt 180
 catttccacg aaagcacagc ggcagtgatt ctagcaggcc tcagggccct gggcctggag 240
 aggctacatg agggggagcc tcagtcacag gatcaacctg gggcccgaag gagcagggtt 300
 ccctgcctct ccctctgcaa cagatcatcc catccaacac aacccccaaa atgttgatga 360
 tgacgcacat ggtcaaccct caagaccttt aagacaaaac agagcacata ggaaaaaaa 420
 aacnaaacgc ccaattttctg ctgtgtcaat ggtagggcac cattttaaaa agtctgctaa 480
 acagtctgct ttacttggan ggacgtatgc aaacataatn cttgttagtg aagaaccatg 540
 acgcctctac ttactctaag ttagtngaca nttaaacttct gctcccttca agttaaagnc 600
 nttcnaactg ggtggggaat act 623

<210> 79
 <211> 462
 <212> DNA
 <213> Homo sapiens

<400> 79
 accagttaaa aatgtattta ccaataagtg ataacagcaa caatagctaa ctgacaattg 60
 attaaagaca gtatacaggg atccttttgt ggttcataag catgatgatt agattttcat 120
 gctattgggt gagatatgcc ttcctcagac tttgttacag cataggcaca ttacaacctg 180
 tctgatagga gaaagaaagt aaagatggta tacaggccag gtgcggtggc tcacgcctgt 240
 aatcccagca ctgtgggagg ctgaggtggg tggattgctt taggcctgga gttcaagacc 300
 agcctggccc acatggcaaa accccatctc tactaaaata caaaaaaatg gttgtggtgg 360
 cacacacctg tatttcccggt tgcttgggag gctaaggcac aagaatctct tgaaccagga 420
 ggtggaggtt gcagtgaagg aatatcgcac cactgtacct cg 462

<210> 80

<211> 640
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(640)
 <223> n = A,T,C or G

<400> 80
 acccggttgct gctgccatgt gtgtgcttaa aacagggttc ctttttgtag catcagaatt 60
 tggaaacccat tacttatatc aaattgcaca tcttggagat gatgatgaag aacctgagtt 120
 ttcacacagcc atgcctctgg aagaaggaga cacattcttt ttccagccaa gaccacttaa 180
 aaaccttggt ctggttgatg agttggacag cctctctccc attctgtttt gccagatagc 240
 tgatctggcc aatgaagata ctccacagtt gtatgtggcc tgtggtaggg gaccccgatc 300
 atctctgaga gtcctaagac atggacttga ggtgtcagaa aatggctggt tctgagctac 360
 ctggttaaccc caacgctgtc tggacagtgc gtnacacatt gaaaaatgaa tttgatgcct 420
 acatcattgn gtctttcgtg aatgccacct aatggtggnc cattggagaa actgtnaaaa 480
 aagtgactga ctctggggtn ctngggancca cccngaactt ngcctgntnc ttattaggag 540
 atgatnctg gngcaaggct ttccaanngn attnggacaa tccaacctac caganaagtc 600
 atggntggaa naacctgga aagaacaat ggtgaagggg 640

<210> 81
 <211> 643
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(643)
 <223> n = A,T,C or G

<400> 81
 actgccattc cttaaattca tttagattac agtgtgtaat cataactttt gatccatcag 60
 ctccctttgt caaacactgg tcatactgca tgagttgatt tgcttcattg attctgaaaa 120
 gctgattccc tcccaccttg tggcaggggc ctagtccaac aaagcctcca tttgtttttc 180
 ccatgctatc aatgcagtaa gcagtttcga agcctctgat ttctcccag tcaacatttt 240
 tgggtggcaa agggtagtgt gaggtgatat cataagctat ttcttccatg aaccacttaa 300
 aacttttgca gttgtgatct tctcgaaatt ttttcaagct ccgatatac cccatatggg 360
 aatgcctgag attcaggacg actagcatag aagtagtctt tatattcatc caccaaacct 420
 tcacaactct aacataattc ttcagagttg gagaagaccc aacataaatg ggcngaggat 480
 tncctggcag ccctcaagac ggtagatatg tccacacgag aaccanggac caaataataa 540
 tttgncacca cacttggcat atcttggatg agatctcaaa gtttcaccac cccaaatttg 600
 gaaacctgga tcttgagacc caattcaaag aaaacttttg ttn 643

<210> 82
 <211> 642
 <212> DNA
 <213> Homo sapiens

<400> 82
 accaagtcac tatctctgac agcatttgtt attagaagga aactggatt tagtcaaaaag 60
 ataggagttt gaatcccgat gccacctctt accaactggg taaccttgga taggaattgc 120

ataacttctc	tgagcctgtt	ctcaaattgc	ctacctcata	aggttgctgt	gaagaataaa	180
tgcattgatg	tttctgaagc	acttatcccc	tgccgttaga	tctcctgagc	tgcatttctg	240
tttaacacgg	gccccagtt	tgtcagccaa	gcagctcaaa	tatatgaagt	ctaaaatgaa	300
agtaatgacc	ctttatgata	tctttctatt	gttctcaatc	agttcctttt	tttttagtta	360
cctaattctg	ctcacggtgt	gtccctgttg	ttcagattcc	agatgtcagt	gattgtggac	420
tctccttttt	tcttaacaga	ttacataata	cctgcagctg	ccaagtcttt	gtctgtgttt	480
tcattatttc	atcattttaca	tcagatcttt	ctttttctct	cccgttgaca	caccctagtt	540
caggcctcat	tcaagtcata	cccagagtat	tgtatcagcc	tcctaattga	tctttactcc	600
ttcactttgc	aacctattct	gtatgccttg	tgaagtacct	cg		642

<210> 83

<211> 584

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(584)

<223> n = A,T,C or G

<400> 83

ggtacagtag	agtctgagaa	ctgggtcaac	actgaagcat	tcacaccttc	aggatatgaa	60
gcagagcttc	ctgtcacatc	tgcatagtgt	gtgctgttgg	tcaagagcca	gtgtgcagtg	120
atctctccac	ctctcatggg	tgcgactgac	ctagacacag	tctcagtctg	agacatggga	180
cttccatttt	gcacctcaga	gctgctggca	agctgatgtt	ctccaaaggt	tgggggaatca	240
ttttgccaac	gcaaagacgt	aagtccaaat	tcattttctg	tggatggttc	aatgaattcc	300
tcacccccctg	gattcccgat	tactctactg	nttcttctcg	attccactgc	agaggggtgaa	360
agaaggactg	aggatgaagt	ccgtagcaat	tctggagtcc	ttgggggaagc	cttctgtctt	420
gctcacaggt	tccagactga	cccgtcaaag	atccgcagcg	ttctcggggc	accttcagtg	480
aacacggggg	caacatgcat	tggctttgtt	gactgactna	ggagcttttg	aggcccagtn	540
gganttgtaa	agcttctctg	nacctgcccc	gggcggccnc	ccgg		584

<210> 84

<211> 558

<212> DNA

<213> Homo sapiens

<400> 84

ggtaaagaaa	gaaaaaaaaa	aaaggcctgg	atactgcttt	tgtgtgtctt	gttatgagat	60
ggaagactta	catgggtttg	gataaaaggg	gaccatgaga	atgaattggc	ttggcttact	120
ttccccctga	aatcctctct	cctgcagact	gtcttgaaga	cctggtgact	ggtaaaataaa	180
gccctgcatg	gaggctgcac	agcaggggca	agaggcccat	ccccagcat	ctcactgagg	240
acagcttcag	gctgccttcc	tctgaacgtg	gtccacacct	tctctctctc	cacagagagg	300
gtgccgccag	aatccccctg	cgctttctgt	gtctgcaatg	ggggggcagca	cagggatcaa	360
agccatctaa	agagtttcca	gagaaagtat	taattcagaa	caagccaaag	accctgagcc	420
tcaccacaaa	caggcctttt	ggagtgtgaa	tttgagttga	agatacaaga	tccggagaatg	480
attttctggg	cttaactaat	cctcgtcttc	atgtttgatc	tttaagaagt	catcacccat	540
tgatttcagt	tttgctgt					558

<210> 85

<211> 499

<212> DNA

<213> Homo sapiens

<400> 85
 acaaaaacat cgccatcaaa aaaacgctgt tctgacaaca ctgaagtaga agtttctaac 60
 ttggaaaata aacaaccagt tgagtcgaca tctgcaaaat cttgttctcc aagtccctgtg 120
 tctcctcagg tgcagccaca agcagcagat accaccagtg attctgttgc tgtcccggca 180
 tcaactgctgg gcatgaggag agggctgaac tcaagattgg aagcaactgc agcctcctca 240
 gttaaaacac gtatgcaaaa acttgagag caacggcgcc gttgggataa tgatgatatg 300
 acagatgaca ttcttgaaag ctcaactctt tcaccaatgc catcagagga aaaggctgct 360
 tcccctccca aacctctgct ttcaaagcc ttgggaactt cagttggcag aaggggccgt 420
 ctggcccaat cttggctgca actatttgct cctgggaaaa tgatgtaaat cactcatttg 480
 caaaaacaaa cagtgtacc 499

<210> 86
 <211> 146
 <212> DNA
 <213> Homo sapiens

<400> 86
 acaggatact taaaatggaa taactttttg gttgcaaaac agagacatgg ttctataatg 60
 cttcatgtcc ctccaagatt tgagatcaat ttagggattg tgaaattttt tttttcaaatt 120
 ttcatacaat catatttccc agtacc 146

<210> 87
 <211> 572
 <212> DNA
 <213> Homo sapiens

<400> 87
 atccctagca ttttaaaatt cagttgttac agggatccca cataatattt tgtcatttat 60
 atgaggggtgg atgagggctg aaatttcatc ttgggtcttg gaacagattc atgggcacac 120
 atttttaaagc tattggctct cagttctgca gattaagaaa ctccaattta ttgattcccc 180
 agggtaatga gaaaatgcat tgagtgatat ataacatcca ctacattcac aggaaatgct 240
 gtccctggatc aaaaactgac ctggctcattg aattatgttg gagaactcat aaaaattcca 300
 tggagaaagt gatattcaag ttggctcatg aattctgagt aaaagttaa aagcaaagga 360
 gaggatagcc ttacagagat aacaatagga acaaagtcac agacttgtgg aaatggaaga 420
 ccgggctaga aattaggaca gtccatattc aagcaagcag ggttgggttt gtgaacaaat 480
 accttgaagc tttggatgcc ttggagccct tgacagtttt tgagaatgta tcaaaacaat 540
 taaatagtct atttggaagt gagagccctg gt 572

<210> 88
 <211> 512
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(512)
 <223> n = A,T,C or G

<400> 88
 ggtaccttat ctccagaagc agactgtttg gggacaggcg cagtgcctgt ggagcggcac 60
 ttgacatcag cgtctcttcc cacatggagt gaggagcctg gccttgacaa ccctgccttt 120
 gaggagagcg ctggagctga caccacacaa cagccactta gtttaccaga aggagaaatc 180

accacgattg	aaattcatcg	gtccaatcct	tacattcagt	taggaatcag	cattgtgggt	240
ggcaacgaaa	cacctttgat	taacattgtc	atccaggagg	tctatcggga	tggggtcatt	300
gccagagacg	ggagacttct	tgctggagac	cagattcttc	aggtcaacaa	ctacaatatc	360
agcaatgtgt	cccataacta	tgcccagagc	gncctttccc	agccctgcaa	cacactgnat	420
cttactgggc	tttcgagaga	agcgcctttt	ggcaacccca	ngcacacaan	cattctgaaa	480
ggnaactctc	cccnagaaaa	aaattttncn	ng			512

<210> 89
 <211> 573
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(573)
 <223> n = A,T,C or G

<400> 89						
actcggctgc	tctccgcgt	tctgagtcgc	ctcctcaaca	atctggacct	caagtgcctt	60
aagggcaaca	gcaggggacg	cggcactggc	tttcagcatt	gcaactgcct	cactgtgact	120
taaattggtc	aaatcaatgc	cgttgatatt	tagcaacaca	tcacctctct	ttattctgcc	180
atctcgtgca	aggcagccat	gggggtggcac	actggtcaca	aagatgggca	gctcaccact	240
cttacttccc	ctgccccag	caacgggtcat	gccaagggat	tcattgtggt	ccttctttac	300
agtaatgtgt	ttttcttggc	atgtaacaca	ctgagtaaga	tccttatgtg	agcttgggtc	360
gctataatac	gggtggtggt	tgtggtgctg	gctgctgctg	ctatgatttc	ctgcttctct	420
aatggtgtta	ccaggctggg	gtttccctgg	tctagcaatt	ggtaaattca	ctctntctcc	480
actggcctga	ataatctggg	cagcaagctc	cgggaagtcc	atacttcagg	tcgtgccccat	540
tgatggccac	actcggcatt	gctgcttanc	ctg			573

<210> 90
 <211> 658
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(658)
 <223> n = A,T,C or G

<400> 90						
ggtacctttt	aacccaccct	cctccaatca	tgggaggagt	tgttcgggat	ctcagcatgt	60
ctgaagagga	ccagatgatg	agagcaattg	ctatgtctct	gggacaggat	attccaatgg	120
atcaaagggc	agagtcacct	gaggaagttg	cttgccggaa	ggaggaagag	gaacggaaag	180
ctcgggaaaa	gcaggaggag	gaagaggcta	aatgtctaga	gaagttccag	gatgctgacc	240
cgttggaaca	agatgagctc	cacactttca	cagatactat	ggtgccaggc	tgcttccacc	300
ttcttgatga	gctgccagac	acagtatacc	cgtgtgtgtg	acctgatcat	gacagcaatc	360
aaacgtaatg	gagcagatta	tcgtgacatg	attctgaagc	cagtagtcaa	tcagggtgtg	420
gaagcttgct	tgatgtattg	gatcaaaagc	ttnttctttc	cctggacaac	cangtggaca	480
caaaaaaccg	tggtcanaaa	tgggttaaag	tcanatnggg	ccccacttgg	ccccaaggcc	540
ttccaatttn	ggctanctta	aaaatccttg	gctttttaacc	nctacttttt	tgnagggaat	600
ttgaagctta	cctttggggc	ttgggtgggg	ttgnaatcna	agnnggattc	cttttnngg	658

<210> 91

<211> 570
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(570)
 <223> n = A,T,C or G

<400> 91
 acctctgact acaccttcat gttgggcccct gaccaacaga ccctcagggt gtgagttttg 60
 gcttcgggga gaaaattcct cctgcttgat gtagggcaaa gtagctgatt tggcagattc 120
 ctgttgccgt ggcagtccaa gagagataga tcccactgac ggcttgggtg tttcttgagt 180
 gtaggaagcc tgattatgag aagtcaaata agtgccctgt gttccctgtg agatggagcc 240
 tcccattata aaagatgggt tttctgaagc cactgtggtt ttggatgacg ggatgagagg 300
 gggccggtgg cctgggttgg cgagttgtcg gaagcccga cgccttcagg gagattagtt 360
 atcacttgat gtggagcagg ctgaaggact tcccactctc tgtttggact cttggatgtg 420
 ccacatggac ttgtagaact tctacattcc aaatctatct ggncttggct ctggccnttg 480
 ttcctncagg agtgctgact catgcnttgn tttaatgngt cgctggtaga naacatancc 540
 gttactgggg tccaatggga tgtacatngg 570

<210> 92
 <211> 603
 <212> DNA
 <213> Homo sapiens

<400> 92
 ggtacacatg tttttattag attcagtcct cacaacgaat ccattcaaag atacaactca 60
 cagtggtgaa atgactggcc agagggttagc caggtagcac gtggcagagg cagggatacc 120
 aagagtcctt tccatcatat cacactgact aagttttcct ggggttctgtc gaaaatatta 180
 atggttcatt gggcataatg gtttctagtt cttttctatt atttcatcca aatgaatttt 240
 cctttctcatt tactatgaaa gattttgtta gccttcacat cttgccctac tgcttataaa 300
 ctaaggaaaag gcaggttcct ccacacagaa cagctctctc ctctatcact ttctatatga 360
 aactttcaat aagacatatc gtgtttatct caagcccacc atagctgagg aggaatcgct 420
 tgctttcccc tataattccc agtgcccagc attctcacia ctaggagggt cttgagaatc 480
 tctcatttta tacaatatga agtaaaagcc aatttaaact tttaaatggt aacttaattc 540
 aatgctgaat atcaaaaataa tcaactgtta aaaatttaaa tgattgtttt gatatatattc 600
 tgt 603

<210> 93
 <211> 627
 <212> DNA
 <213> Homo sapiens

<400> 93
 ggtacacatg tgtgcccagc attaaaaaaa gatgacacag atgctgctca caaatgtcgt 60
 tttgaaagga agaaaatata tataatcata aaacaaacaa caaaataaga taaaatatgg 120
 ggaaatgccc aaaccaactc catgccaagg aaagagcaat tggctaattc cttaaattcac 180
 caatagggtc ctagaagctg gtctttgata aaatttttat tggttttcag taaagggtgga 240
 aaaacaagga gaattttatt agcttcttta aaaaaaaact aaattttttt caactcaaaa 300
 agattatccc ttttttaaga ttagcctttc ttatttgaga agccatcaac aaaccctttc 360
 tctgactgat agtgacatac ataactgggt tgtttatgca attttaatgt catttttttg 420
 atgtggatag aggcagaaga aaagagaaga catcctgggc ccagattgca acacaaacac 480

agaactgacg	tgacagctgt	gggggatatg	ggacagagat	acaggaagga	ggagcctggc	540
caggggttgca	gagtgcagta	aaatcagact	gggggagctga	gagagccctc	ttggagagggc	600
tttgaaatgc	aggccgggga	gtctgga				627

<210> 94
 <211> 331
 <212> DNA
 <213> Homo sapiens

<400> 94						
ggtacctatg	ataatcagat	ggagatctgg	ggagggggaga	acgtggaaat	gtccttccgg	60
gtgtggcagt	gtggggggcca	gctggagatc	atccccctgct	ctgtcgtagg	ccatgtgttc	120
cggaccaaga	gccccacac	cttccccaa	ggcactagt	tcattgctcg	caatcaagt	180
cgcctggcag	aggtctggat	ggacagctac	aagaagattt	tctataggag	aaatctgcag	240
gcagcaaaga	tggcccaaga	gaaatccttc	ggtgacattt	cggaacgact	gcagctgagg	300
gaacaactgc	actgtcaca	cttttcctgg	t			331

<210> 95
 <211> 752
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(752)
 <223> n = A,T,C or G

<400> 95						
ggtcctgtcc	cgcccctctc	cccaagcgcg	ggcccggcca	gcggaagccc	ctgcgcccgc	60
gccatgtcaa	agaaaaaagg	actgagtgc	gaagaaaaga	gaactcgcat	gatggaaata	120
ttttctgaaa	caaaagatgt	atttcaatta	aaagacttgg	agaagattgc	tcccaaagag	180
aaaggcatta	ctgctatgtc	agtaaaagaa	gtccttcaaa	gcttagttga	tgatggatg	240
gttgactgtg	agaggatcgg	aacttcta	tattattggg	cttttccaag	taaagctctt	300
catgcaagga	aacataagtt	ggaggttctg	gaatctcagt	tgtctgaggg	aagtcaaaa	360
catgcaagcc	tacagaaaaa	gcatttgaga	aagctnaaaa	ttggcccgat	gtgaaaccgg	420
aaagaacnga	acncaggctt	accaaaaaga	agctttcttc	acnttcgaag	aaccaaaggg	480
gaaccagctt	taanggccna	aagttgnaaa	aatttccaaa	ggactggnga	atccncnaag	540
tttgtgggaa	aaaaattccc	ttanccttan	ttccccaatt	aaaaatnttt	ggggncccaa	600
aagnaaaaat	ttnggggttt	tgaaanaaaa	tttaaaantg	ggntngaaac	ntttttggga	660
aattccccaa	aanaactttt	gccttccctt	tgnccttaaa	aantttncca	tgggggggna	720
aaanggat	ttt	nncttgncc	cnggggnggg	nc		752

<210> 96
 <211> 405
 <212> DNA
 <213> Homo sapiens

<400> 96						
tacaacaaac	accgaaaaca	aagtaaaaaa	tgaaacacaa	ctagagaaaa	tgtttaggac	60
acatgtcagg	agggttaatat	ccctaatact	gaaaaatttc	ttgctagtaa	gccaaacaac	120
ccaataaaac	tctaaatgat	acttcgtgag	ttgataaaat	gatttccaac	ttgagttgtc	180
agacaaaaca	tttgagatag	actaacaaaa	ttattgttta	tctaaaactc	taattgggca	240
tgttgtat	ttatttgtgg	aagggtggcaa	cactatttca	gacacttggt	ctcatttggc	300

cctgcagtaa ctcaatgaga tgggggaaaga ggtaaattaa cctctccaac agcagtttcc 360
 tcattctgtca aatacagtgt gagaattaa ttggataata taggt 405

<210> 97
 <211> 499
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 97
 acagaaactt ggtgggaaaa ggggactgtg gccagagttg ggaccctgga gcagcatcct 60
 ctgcagagaa ggattttgtc tggccagagc ctggagaaac ctgaaaaaga accagtcagc 120
 tagccagggt ctcaagaaaa agcagattac acactcaaata tgggtaattt gagcagagct 180
 taataaaggc agtatttaca aagtgtgggc taagcctccc atgagagtgc agaaccctgg 240
 ggctagcagt gtggggcgct attcccagcc ccctcaatcc attggctgag gccgctggaa 300
 gccaccgggc caagggagct tgttgatgtg ggtcacacgg gcatgttccc aggtcaagag 360
 aggagagtgg agagtgaatc tanggagact caagagggaa gaagtgactt ccactacctt 420
 tcctttctgg ccgttttgc tccanctggc ttctcttttt ccgannccnt agttttgggt 480
 ttaangnann ntangtnaa 499

<210> 98
 <211> 688
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(688)
 <223> n = A,T,C or G

<400> 98
 naggtacaag ttatcaatcc gagggacaag agggagggac aagaaccagg tctcagctgc 60
 attcacatcc tggaccctgt catctcaaag ccagttccct ccctgccttc caacttgggt 120
 tcattcactt tggattgagt tgcgttctca ctgaacagaa acccacaacc caaaaacaagg 180
 gcagcccatg gccgtgatta agctctgcac cagtggcgaa gggatcgagt gggagaccag 240
 aattcagctc cgcctctgtg cggcctcaag ggagttatga acttctgagc cttagacatg 300
 cttctgagct gccaccaagc tgcctnatgg ggctgcctaa ggattaatgn attaatacaa 360
 tcccaggcac atnagtcatt aataaaatta agaatacngn gaccactaaa cccactactt 420
 tngaagtact tcctactaac tacnttaaac cccaacttga aggttttgga aaaganaatg 480
 nccacttgga aaccaaaccc gcnnaaangg aaagggtacct tggaggcact ttttcccttt 540
 tggggcttnc ctanaatcen tttccatttt ctttttgacc tnggnaaatt nccngggga 600
 ccccatctac aaagtctcct tgggccggg ggnnttnaag ggctttancc aagggnntan 660
 ggggcttggg aaaaagnccc ccacttgn 688

<210> 99
 <211> 657
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(657)
 <223> n = A,T,C or G

<400> 99

ggtacttttc	ttagtatctt	aacatcacat	gcatttttga	gtttatggtc	tccagtctcc	60
agctgttttt	ggagcacctt	ctaactttga	gaggggtgagc	tctagcctgt	aaaatggact	120
gtgggtggct	cgtggagaag	gtgccctggg	gtgcttttct	gtgtcctctc	tggattctcc	180
ctgagctgtc	cacctctgaa	gcctgcttca	ccttcagact	gccagggcaa	gacatgcagc	240
ttctgcagaa	ctcatggcag	ccgtttttcca	cttgcccgag	ctgggtctgt	gaagcagaga	300
ggaatcagta	ataggaaaga	aatgtaagtt	gnttttttcc	cccttagaat	acctaccata	360
ctggatttca	gcttggagtg	cgcagcatga	agcattttgtg	gtcaaaaaag	aggntcttct	420
ttttccttct	nctggtttct	tttcttnctt	cttcccaact	tccccaangc	ttactggctt	480
tctntnaag	ncacgtgtgt	aaaatanect	tgaggggaaaa	aanggttccg	gcttgggana	540
tttggaatnta	cctaaagggn	cagaataacc	cttctttgcc	tggttctntt	ttggcctaata	600
cnaggggaatt	tttcgactgg	ggncattaat	ggncctccgg	cggccgttaa	anggcaa	657

<210> 100
 <211> 504
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(504)
 <223> n = A,T,C or G

<400> 100

atttcttctt	tgcatgcagg	aagaaaatc	actcgccgtt	tgataatttg	ttatgggtctt	60
atttgacctg	ttatccctgc	ctcccatggt	ctcttttacc	tacaacctat	cagctgttag	120
agtttctctt	tccaagactc	tccatgtcca	tccctctctg	attccccct	ttcactccat	180
cttctgtaac	ccagcccctc	gggagctgag	gaggtggagg	cggatataga	cacggagagt	240
gctggatgca	aaggtgttac	ttgtggcaaa	ggcgccgtgt	gtgctgagga	tagatggcag	300
gtatgagaga	gggcaggatg	aagcacaggg	gtggagggga	gcagagagac	ctacaacaaa	360
accactcaa	ggggtatgtg	agatagactt	tttttctctg	nctttttgtg	tgtctgtaat	420
gggggttgga	aagtgggggtg	gtctcancag	ntaattctct	ggagntctct	ggacttgagc	480
ctngtcnnaa	nagcccgaa	nttt				504

<210> 101
 <211> 685
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(685)
 <223> n = A,T,C or G

<400> 101

ggtgcctggt	ttgccactta	ggaagctgga	aagaattttc	gagtcaagtt	aacccaaccc	60
cctcttcttt	tcacatgtaa	gcacactggc	tcagccagaa	ctcaggtctt	tcaacctcac	120
agttggtgaa	gactcttaca	tgttggttcc	aagttgctca	actctcaggg	ctcagcctac	180

aaaagactcg	gcatttcgac	cagctcagtc	cagaggactc	cagagaatga	ctgctgagac	240
caccccactt	tccaaccccc	actacagaca	cacaaaaaga	acagaaaaaa	aagtctatct	300
cacatacccc	ttgagtgggt	tttggtgnag	gtctctctgn	tccccttcac	ccctgngctt	360
catcctgcct	ctctcatacc	tgccatctat	cctnagcaca	cacngngcct	ttggcacaag	420
tacacctttg	cattcaagca	ctnttcgggn	ctatatncgg	cttcaacttc	ttagcttccg	480
aaggggcttg	ggtaacngaa	aaggatgaaa	gggggggaatg	ncaangggat	nggcctggga	540
aagttttgga	aaaggaacct	ttaccnctga	aggggtgtag	gggnaaaaaa	aacctgggag	600
ggcggggtta	ccnggtcaaa	taggaccttn	ccaantttta	acnggggagg	gaattttntc	660
cngctgccaa	naaaaannnc	ttccn				685

<210> 102

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(498)

<223> n = A,T,C or G

<400> 102

ggtaccatat	acttaaggct	atagtttatt	tcataacttt	ttttctagcc	ttcatatctt	60
gtgtttttcag	gttgtcacia	tattctttta	aaaattaagc	attcttacgg	cttcactcat	120
gtgcaacatt	tataattatt	tgcatttgcc	ccctcaatga	tctcaataga	ataaatcagg	180
ctccactata	ctcatttcac	aaagacacat	tcattacaaa	ggataaagga	ctgaaatatt	240
tggttttgcaa	tctgttgacc	taagtaggaa	taggaagcac	agtttcagtg	cttccaagtt	300
tttaaccctt	gactgagacg	ttttggttga	gtattactat	tcttattcta	ccaatgataa	360
agggaaaactg	aatgcccaac	catgtgctgg	ctgtttacac	atatgcaaca	ttgactgggt	420
ctcacaacca	ccttgaggaa	taggcattgn	cttcaattta	caaatgagga	aaacaacctat	480
tttcaangng	cattttnc					498

<210> 103

<211> 697

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(697)

<223> n = A,T,C or G

<400> 103

gnnatctgaa	attcgccctt	cnagcggcgc	cgggcaggac	taaaaatgta	agttttatttt	60
gccatacccc	taacaacatt	ttattttaaat	tatattgtga	cttgattaca	aatcttttta	120
atgacattat	tggcatattt	ttcttaaact	ttgtaagaaa	aagataacat	ttcacatttt	180
agtagcaaaa	tcattgttaa	gagatagtca	attttgtgaa	aatatttgag	tgctaataca	240
tttttccagg	atgatcttct	atcctttta	atttagatct	tccttttgaa	gcacttacat	300
catcatcaaa	tttttgggtca	tttgntgnng	catctaattt	ctgggttcatt	ttctaattggc	360
ttcgtatgtg	aatgaatttt	agttattcct	aacgtcattg	gtagccactc	ttttgaaatt	420
tttttttaaa	ccaggctttc	aatttttaatt	tatanggaat	ttgcattggg	atatagatga	480
ccgctcaaaa	ttcccatgng	agactgntga	aatgncctaa	acnattcgcc	tggacnctgg	540
attaanccgn	ggcctcttaa	ggtaatctng	anggggtggc	ttattgggaa	aatttggatt	600
nnggccccgt	tactntgcca	ggttngactt	nnaagggcc	anaaggacct	nggaaatnaa	660

gatnccctna acccttcctt ggnaaanaaa naagttt

697

<210> 104
 <211> 504
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(504)
 <223> n = A,T,C or G

<400> 104
 accatcattc agaataactc ttccaatttc tgctttcaga catgctgcag gtcctcatct 60
 gaactgttgg gttcgttttt tgtttttttt cctgctccaa gaaagtgact tcaaaaataa 120
 ctgatcagga tagattattt tattttactt tttaacactc cttctcccct tttcccactg 180
 aaccaaaaag aaatcccatc cctaaaacct gccttctcct tttatgcaaa actgaaaatg 240
 gcaatacatt attatagcca taatggtata gatagtgtt gcgtttggct atgtgttggt 300
 ttcttttttt ttaaattatg aatatgtgta aaatctgagg taacttgcta accgtgaatg 360
 gtcataatac tttaaagata tatttataat tattttaatga catttggacc cttgaaacat 420
 ttcttagtgn attgatattg tgactttcgg tctctaaaag tgctctttat taaaataaca 480
 aatttcttta aagggntctaa aanc 504

<210> 105
 <211> 746
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(746)
 <223> n = A,T,C or G

<400> 105
 ggtactaggt gtctcataat tgaaccctct atccacatgt gcggctttta gctgactatg 60
 tctttgctat gaagcctggc gatttagagt tttgcttaac tatgaaacca cagaacattt 120
 ttctgtagtt caatgattta cttgtgcttg tctttttaat atgacaagag tcataattac 180
 cccaaagaaa ttagaaaacc acatcactcc agcatttcat gctgataaag ggctaaaggt 240
 tgttttttta atccctaatt accgcttttag aaggcaaagc tgtgttagag gcattcaaag 300
 atctgaaaga actaaacata acatttcctt catacatcac aaaaacaatc tataatctaaa 360
 atatttggag aagggaagta ttttttaaaa tcacattgng ccctggatga acctggaaat 420
 ggcttancca tatttcaaga atatgntct aggacccact ggaaggaaaa tttgggtaat 480
 ttaaataaaa ganccctttt ttaggaggan ccgaaagtcc aaccttatc aattcccctt 540
 angaaaatng tttcaagggg gtccnnaaag ggccatttaa antaattttt taaaatatta 600
 tcttttaaag ggtttttttg ganccnttn nccggttgnc caaggtttnc ccttcgnaat 660
 ttttnccctt ttttccttaa antttaaaaa aaannggnaa acccccccct ttgnccaaag 720
 cccatnccctn tttttttacc ccttng 746

<210> 106
 <211> 645
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(645)
 <223> n = A,T,C or G

<400> 106
 acaagctttt tttttttttt ttttttttga gatggagtct cacattgttg cctgggctgg 60
 agtgcagtgg cagcatctcg gctccccggg tcaagtgggt ctctgcctc agcctcccag 120
 gtagccggga ttacaggtgc ccaccacat gccagataa ttttttatat ttttagtaga 180
 gacgggggtt taccatgttg gccagactgg tctcaaactc ctgacctcat gatccgctg 240
 cctcaacctn ccaaactgct gggattacag gcgtagacca ccacaccggg ctgagttggt 300
 gattttttag tttgntcagc tttttacttg gtagaatgaa gtgatgactg ncgacctcct 360
 taagggccag actagaaact gggagtctcc tatttangnc gccttaaaaa ttgnaagctn 420
 gacattggtg gtgaagcatt ggaacaattc ttaattctgg tacctganan ggggtgaattt 480
 tggtttctact ngcngcttat cagtantcaa ttccttgaac ttttaaaacn ttagttaccc 540
 ttngtaggga cagnnttcaa attttccttg acttagggaa cccttantct ngggacaagt 600
 tttattctaa ctgactgttg caaacttang gcttcntacc tggcc 645

<210> 107
 <211> 684
 <212> DNA
 <213> Homo sapiens

<400> 107
 acagccagat cttaatgatga gtctgtgtca aaatgacctg aacgcaagtc tgtattcttg 60
 cagagtaaca gagtgttcgt ctgtttctgt ctaaaagtca taactatata gatattctggg 120
 aatgcttgca tgaagctttt actcccgaga gcatactact acttacgggt ataacttggt 180
 gatgtctata ttggcttaat tcaaatgaaa agttcactcc aggagcagct ctttgtaatc 240
 cacaccaccc cccagactgt tctgaataaa ccagaaacaa ctcatacacc agcctaagca 300
 tgggtctatct tcttgggatg ggacagaaca taattgtatt aaaatataaa atcagtttta 360
 aaaggtctgg aaggacatat cttaaggcca tgatagtaag tacagctggg gtgctgggga 420
 ggggacctca actagggttg gtggcaaaaa tgggactttt aactttgggt ttaacatcct 480
 ggtcctaataa agaagactag atttacctat tatatatgca atctaaaatt aattcaaaaa 540
 gtcacacagc aggaccccc taagattctg ggtggtaagt ccaccaaagg ccaagagcta 600
 aaacaaaagc cttttccaca tgtctgaga agttggccca aaactgctga atctataggt 660
 cttagcatgc tctatctatg tacc 684

<210> 108
 <211> 236
 <212> DNA
 <213> Homo sapiens

<400> 108
 ggtacacgtc gttctcttca agatctcata gacaatcgtg ctccggggtt tgctgtcgaa 60
 aaaggaatcc ttatcagaca agtcaaatag atgctgcttc tcccgggaga agggatagga 120
 gagtctcttc atggtctggg gcctgtgctc agccactttg ggctggatgg gatctgtgat 180
 tttctggagc acagagttga tttttttcag gagggcacgg gtctcattaa tgtggt 236

<210> 109
 <211> 497
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(497)
 <223> n = A,T,C or G

<400> 109
 acgagaagtg tgggtgctgga atatctttcc ggtgaggcct caagaagttt acagtcacgg 60
 tggaaaggcaa tgaggagcca gcatatcaca tgggtgacagc aacagccaga gcaaaagagg 120
 gagggagagg tgccactcac acttaaacia ccagatctgg tgtgaactga ctcatcacca 180
 aggggatggc actaaccat tcatgaggga tctgccccca tcatccagac acctcccacc 240
 aggcctcatc tccaacactg gggattacat ttcacatga gatttggagc ggacaaacat 300
 ccaaaccata tcagtaggat gtctgacatt catcatacga tgtctgagtg aaggagggtt 360
 taagggtcta ttttgtctcc ctggatagta atggaaaatg tatatctgaa agagatgtct 420
 gaaaaagaaa gtttaagtgg gtggcttgca cacttttggg ttgctagnng gctttttgag 480
 ctcanattct catttgn 497

<210> 110
 <211> 722
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(722)
 <223> n = A,T,C or G

<400> 110
 ggtacagccg gtctcttctt tccaggaatt ggctactgtc cctctgcaat cccattcatg 60
 ataaaagcat tcttatacaa cacaaaagat gctgcatcaa tgattctcaa acctccaaga 120
 catccaaatc aactagcatg cttaagatgc agattcctgt gctcgactca ccaacttcca 180
 gaattttcca ttccctagggt ctgagggtgaa cctgggaatc tgccttgcta acaaatgatg 240
 ctgacactgt tgatttgggg accccacttg gagaacctgg gctctagatc tctacctctt 300
 tactgaagtc ttcttccact tctgcttcta actggaatcc aaccgcccac cctgnagcc 360
 cttgcaaagt gaattgccct tttcccttac tctgggtttt tctcctctgg ttctagccta 420
 gattccangg aacatnaact ttgggcntgg cattttcccc tngatntggg atccttttgg 480
 nccagntttt ccccaaagna agccntnaat tcaaaaatctt tccccntng gtccctattn 540
 acccggaact tcngggggna aaaaatnccc aaaagcccc ttacnaaatc cctttttccc 600
 aaacttcaat tgggaaactn gggctttaa aaagncccn tttncctaan ccnaaaantg 660
 ggcctaacc ccccccnttn aaactttntt ttttnnanaa attnttttn anaaattncc 720
 tt 722

<210> 111
 <211> 614
 <212> DNA
 <213> Homo sapiens

<400> 111
 accagggtc tcaactccaa atagactatt taattgtttt gatacattct caaaaactgt 60
 caagggtcc aaggcatcca aagcttcaag gtatttggtc acaaaccctc ccctgtttgc 120
 ttgaatatga actgtcctaa tttctagccc ggtcttccat ttccacaagt ctgtgacttt 180
 gtccctattg ttatctctgt aaggctatcc tctcctttgc ttttaactt ttactcagaa 240
 ttcatgagcc aacttgaata tcactttctc catggaattt ttatgagttc tccaacataa 300
 ttcaatgacc aggtcagttt ttgatccagg acagcatttc ctgtgaatgt ggtggatgtt 360

atatactact	caatgcattt	tctcattacc	ctggggaatc	aataaattgg	agtttcttaa	420
tctgcagaac	tgaggaccaa	tagctttaaa	atgtgtgccc	atgaatctgt	tccaagaccc	480
aagatgaaat	ttcagccctc	atccaccctc	atataaatga	caaaatatta	tgtgggatcc	540
ctgtaacaac	tgaattttta	aatgctagga	ttatcccttc	cctagcacta	tgtcattttt	600
aaaggtgtac	ctcg					614

<210> 112
 <211> 499
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 112						
acttttctgg	aaattggctt	taagagctca	tcttgcattt	ttaaaatctc	tccaactgga	60
tcaaattttt	tatatactcg	tttgataggt	ttttttaaaa	cacatgactc	ttcaggacta	120
caagcagtat	tagtctgggt	tcctacagaa	gcctgtcctg	aggaagaatt	tggactagct	180
ggtctggaac	ttaagttaga	acccacaaca	gctgtctttc	catcactatt	atttttacat	240
tctgtatcaa	tgattaaaca	ctcctcatct	gtatcactgc	tgcagagAAC	tgtaccttca	300
gtttttgctg	cttctgatcc	aacagtcttt	tcctttgagt	tgtctagggt	ttctagaaca	360
ttaggtcttt	caccatcagc	atgtaatata	tctatagtca	tatcattttt	attagaagtt	420
tcaatttcct	gagaattttc	aactggaagg	catcagatgt	tttcaaggca	ctatcttgga	480
tcaaangctt	ggcaaaaaa					499

<210> 113
 <211> 697
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(697)
 <223> n = A,T,C or G

<400> 113						
gcgtggcgcg	gcccgaggta	cctaacatga	cagatgctcc	tacagccccc	aaagcaggaa	60
ctacaactgt	ggcaccaagt	gcaccagaca	tttctgctaa	ttctagaagt	ttatctcaga	120
ttctgatgga	acaattgcaa	aaggagaaac	agctgggtcac	tggtatggat	ggtggccctg	180
aggaatgcaa	aaataaagat	gatcagggat	ttgaatcatg	tgaaaaggta	tcaaattctg	240
acaagccttt	gatacaagat	agtgacttga	aaacatctga	tgctttacag	ttagaaaatt	300
ctcaggaaat	tgaaacttct	aataaaaaatg	atatgactat	agatatatta	catgctgatg	360
gtgaaagacc	taatgttcta	gaaaacctag	acaactcaaa	gggaaaagac	tgttggaatna	420
gaagcagcaa	aaacctggaa	ggtccagttc	tctgcacant	ggatnccan	tgaanggaag	480
tggtttaaat	caattgggtc	cgggaatggt	aaaaaattaa	ttagtggatg	ggaaaagacc	540
agcttggtgg	nggggttctn	aacttaaagt	ttcnanacca	nnntangtcc	naattttttc	600
cttnagggaa	agggcttttn	tnggnaaacc	gncttaaaac	gggttngnan	cccctaanaa	660
ntcttgngnt	ttaaaaaaa	cctttttanc	cgngttt			697

<210> 114
 <211> 497

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(497)
<223> n = A,T,C or G

<400> 114
 acccacttct gacatctgga ccacttcttg cagtcattgg gggtcatccc ccacactggg 60
 aacctgtcat caaatgggccc acagcaacat tcagcttaag tatttctcct tcccacatcc 120
 aagggattga gtgggagtga gattgggggg tggaaaaaac agtgaacagt cctgggtgagt 180
 tgcagatgtg gtctcattcc cttagatgac aggatgcagc tgacctgaat caggacagat 240
 ccctgcagga gggactcctg gtgccatgac agtcccacct ggcactgccc tagctcccag 300
 gctccgcctc tgcattcttc cttgctactt cctctttcac ttctcccccg ttcccagacc 360
 caccagacag agcttccaga gtgtcaggac atgtgtgact tagcccagat tcagacttta 420
 gtcacaagca ggatcaagca tanacatcta acttccagca tgggcaattc tctggtgggg 480
 ctccctgnnt ggantgg 497

<210> 115
<211> 687
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(687)
<223> n = A,T,C or G

<400> 115
 ggtactatgt gtgaagaaat ggagaaaagg aaaaatcang tgtagaaaaa taagaaaaag 60
 caagagttag gttgggtgct acagttcaca gcatgtgata aggactgagc atttattcta 120
 ttatttggtc ataaaaatgc aggctgtaag ggcctacaca caccagctta tcgnagactt 180
 ggctctgagc tttcctgcag ccaatacaaa cagggagaca cancagagaa ttgccatgct 240
 gggagctaga tgtctatgct gatcctgctt gtgactaaag tctgaatctg ggctaagtca 300
 cacatgtntc gacactctgg aangctctng ctggtgggtc tgggaacggg ggagaagtga 360
 aagatgaagt agctagggaa nagatgcaga ggctgnncct tgggaactta ggcaagtgcc 420
 aggtggggac tgacctgggt anccaggaat tccnttctctg gtangggatt ctggtcctng 480
 aattcagggt taagcttgcc attcctgcat ttcttntagg ggganttgaa aacccccctt 540
 ttggaaactt cancaaggan ttggtctccc nggntttttc ccccccccta aattnaattc 600
 ccnttaata cctttgaatt cnggnaaggg nnaattcttt ancctaantg ttcttggggc 660
 nctatttggt ngacagggtt ncnangg 687

<210> 116
<211> 508
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(508)
<223> n = A,T,C or G

<400> 116
 ggtacccatt ttctatttca agtagattaa ccccttatat tctgctaaaa tcatacttgt 60
 tgcctaacac ccagtttaaca aagcaaaaaa aaatcagtta atttataaaa acaaaatgct 120
 aattcttatt ctatgtgaat gtatttcata gattttaagg ggtaaatcac caattagaag 180
 acatgctgtg tccacactat ttttaagatta aacgttaatg ggaatatatt aattcaaatt 240
 aacatgggtca tgtaaaatat ataaccctact caaccattta aaaactagtg tgaacactgc 300
 tcaattctag aagagacaaa gacaaaacaa acaaaacagc cacacaaagg acaataaatg 360
 ccaggctctg catccaaaat cccctccttta tcaaatggca gatgtgacac tgagcttttg 420
 aaaaccttgg ncaaaaatcc ttccgatgtc ttggcagcaa cccctggcag gatcaatccc 480
 ctctgntata aagntttggg cccngccc 508

<210> 117
 <211> 644
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(644)
 <223> n = A,T,C or G

<400> 117
 acaggggtta aggaaggctt tgccggaaga acaattgtaa atcatgagag ttactacttg 60
 cgcattgtgt ggtagtctct ttaatgcata atggctcctt ttaataccaa aaattaatta 120
 ataaaggaaa tgattacatt gtccaaataa ctgttaaaca catgacagat ctgttttatg 180
 atactgtgtt tgacagttaa acattaagta aacatttaat tgactttaag cttgaaatgt 240
 tcagaatgct ctaacccttg ctacagaatc ttttctgcag caagttaagt attttgtgtg 300
 ttttttccca cctgtagctt atcaggcccg gtccaaagcc ttctagcaga ggggattgat 360
 cctgtcaggg gttgctgcca agacatcgga aggatttttg accaaggntt tcaaaagctc 420
 aatgncacat ctggcatttt gataaaaagga gggatttttg atccaaagcn tggcatttatt 480
 ggccttttgg gtggctgggt aggggtgntt tggctttngc cttttcttaa aaattaacca 540
 nggttnccac ttantttttt aaaaggggtga atggggtaaa atttttccnt ggaccnngta 600
 aattgnaata aaaattcccc tttaccgtta aacttaaaan angg 644

<210> 118
 <211> 500
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(500)
 <223> n = A,T,C or G

<400> 118
 ggtacaaacc catgcagcct ggccctcacg tgggtcaagat cttcttttgcg ggggacacta 60
 ttcttaagag tcccttcgtt gtgcaggttg ggggaagcctg caatccaaat gcctgccggg 120
 ccagtggccg aggcctacaa cccaaaggcg tccgtatccg ggagaccaca gatttcaagg 180
 ttgacaccaa agctgcagga agtggggagc tccgtgtaac catgaagggt cctaagggtc 240
 tggaggagct ggtgaagcag aaagactttc tggatggggt ctacgcattc gattattacc 300
 ccagcacccc ggggagatac agcattgcc aacatgggg gggacaccac attccaaaga 360
 gcccctttga agttcaagtt ggccctgaag cgggtatgca gaaagtccgt gcttggggcc 420
 ctgggctcca tgggtgggatt gtcnggcggt caacngactt cgtggnanaa tccattggct 480

ctgaaatnng gnctctgggg

500

<210> 119
 <211> 624
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 119
 actcaatctt tgcctgagag gggccttcaa tggcaaacc cagagacccc acttcagagc 60
 caatggattc taccacgaag tctgctgacc gcccgacaat cccaccatgg agcccagggc 120
 cccaagcacg gactttctgc ataccgctt cagggccaac ttgaacttca aaggggctct 180
 ttggaatgtg gtgtcccccc catgtgatgg caatgctgta tctccccggg gtgctggggg 240
 aatactcgaa tgcgtagacc ccattccagaa agtctttctg cttcaccagc tcctccagac 300
 ccttaggacc cttcatgggt acaccgagct cccacttcc tgcagctttg gtgtcaacct 360
 tgaaatctgt ggtctcccg ataccgaccg cctttggggt gtaggcctcg gccactggcc 420
 cggcaggcat ttggatgcan gctttcccaa cctgcacaac gaanggactt ttangaatag 480
 tggnccccagc aaagaaaatc ttgaccacnt tgangggcca gctngatggg tttggacctt 540
 tggccggaac acccttangg ccaantccng canttggggg ccgtacttag ggaccaactt 600
 ggnccaact ttgngaata tggg 624

<210> 120
 <211> 504
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(504)
 <223> n = A,T,C or G

<400> 120
 acaggcatgg caccgacatc tgcttggtt ctgctgtagc ctcaggaagc ttatagtcgt 60
 ggcagaaggc aaagaggagc ggcaagagag gaagcaagag agagagcgag gaggtctcag 120
 actctcttta ataatacagat ctcttgataa ctcattttcca tggggagggc accattcatg 180
 agggatccgc tcccatgacc caaacagccc ccaccggggc ccactgtcaa cactgaggat 240
 cacatttcaa catgaaatgt ggaggggaca gacatccaaa ctatatcacc tccatactgt 300
 tttccacagc attcccacca acagtgcaca ggggtttcag tgtctccaca tcctcatcac 360
 acttggtatc ttctgttttt gtttggtttg ttggtttggt tttatagtag ccattctcat 420
 gantgtgaag tattaacagt gtcttttgaa gatcagaaat ttctaatttg atgaaagtcc 480
 ngnttan can ntttttttnt tttt 504

<210> 121
 <211> 630
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(630)

<223> n = A,T,C or G

<400> 121

ggtactatcc	taagtttaac	actgcttcac	agtaaggaaa	gccgatcaaa	atttaaggag	60
agattagaat	ccagaaatag	gcccacacat	atatatagtc	attgattttt	aataaagggt	120
caaaggcaaa	acaatgaaga	aaggatggtc	ttttcaataa	atgatgcaga	aacaactgga	180
catccacgta	tgcaaataaa	ctttaatcca	tgctttttac	tttatccaaa	agctaatacca	240
aaatagaaac	ctccctttcc	tccctcaaaa	aagcttctag	agaaaacaca	ggagaaaatc	300
tttgtaacct	tgggttcaca	aagattttct	aggtatgaca	ccataagtat	gatccagaaa	360
agaaaaaaaa	tgataaactg	gacttcatca	aattagaaat	ttctggatct	tcaaaaagaca	420
ctgntaatac	ctcacactca	tgagaatggc	tactataaaa	acnaannanc	caaccaacca	480
ataacngaag	attncagggt	gatgangntt	ggagacnctg	aanccctgng	cactgttggt	540
gggaatnntt	ntggaaaaca	gttggangng	aattagntng	gngnntngcc	cttccanttc	600
atgggnaagg	gacctnagnn	tgancgnggg				630

<210> 122

<211> 431

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 122

actgaaaagc	ttgggtcataa	tcttcttgaa	catggaatga	tctagctage	tgatagcagc	60
tctctgcttg	catagcttcc	acttctgtat	tatggaatgc	atggagggcc	agatgctgga	120
ctttactata	atcctttttg	aagaaaaagt	gatttgccaa	atggttcaat	accatagggt	180
tgctaggatc	aatagtatag	gctctggaaa	gaagctggac	accattttta	atggaatcag	240
cctctttatt	gttgagttct	agaacagcca	gtccaaccaa	tgctcccacg	catttggaat	300
tgagttccag	ggctctgctg	aatgccagac	gagctttttc	cagtttgta	agtttcacaa	360
agcaatgacc	cattcctaaa	cnaacttccg	ctggacattc	ctgggttaag	tacctnnggc	420
cgngaccacg	c					431

<210> 123

<211> 504

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(504)

<223> n = A,T,C or G

<400> 123

actggctgtc	ctctgaggca	ccttggtgtc	ttttccacaa	tggtttatth	tcctccagta	60
ggctagactg	gcttccttat	ttggcagttt	cagggcagca	tttcaaaagc	aggaagggtg	120
aagtggcaag	gccccttgag	gccctttctt	cagagctcac	acagtgtcac	ctttaccaca	180
ttctattggt	caaagcaact	tccaggccag	ccaaaattca	aagggtgagg	tagtagactc	240
tacctctttt	ttcttttgag	acagaattgc	gctctattgc	ccactctgga	gtgcagtage	300
agcctcatgg	ctcactgcag	cctcaacctc	ctgggctcaa	gcgatccttc	catctcagcc	360

tcccagtag	ctaggaccac	aggcacatac	caccacagtc	agctaattaa	aacatttttt	420
ttggtagaag	atgggttctc	acttttttgc	ccaagctgat	catgaactcc	tggccacntt	480
ngggcntttc	aaggggnaac	cccc				504

<210> 124
 <211> 632
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(632)
 <223> n = A,T,C or G

<400> 124						
ggtacaaaca	cagtaaagaa	caacacagat	accagtcctg	cctttatcag	gaaagacaaa	60
acaaaaacaa	aaagtaaaca	ttccagtaaa	ggaatgatta	gtgctattat	gacaaggaaa	120
gcatagggaa	ctattcgatc	aaagaagaga	ggttacagtt	ccccaaatct	agggtgtttg	180
gaaaggaaga	atatccttag	taaatgacat	tgaagctaaa	acctaaacta	tgtatagcag	240
tcagctagaa	aaaacaggca	agaaagaata	tttcagggtg	agagaaacac	atgttttcag	300
gccaaaagct	ggagaacaag	gtgagttaa	agaactgana	gaggtttagt	gattacaatn	360
gttgaacaaa	aggggggcat	tgtggaatga	atannaaaga	ntgggtttgt	anattggaat	420
ctctgcagca	aaactccatt	cagaaggat	aagttcangc	cttggtgggt	tactttggna	480
aggccgtagt	gggccaggag	nttcatgntn	cancttgggc	caaaaagnng	agaaccatt	540
ttttccaaaa	anaatgnttt	naatttacct	ncntgggggg	ggaatgnncn	tngggtcctt	600
anttccttgg	aanggtttaa	attgnaaggt	nc			632

<210> 125
 <211> 496
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(496)
 <223> n = A,T,C or G

<400> 125						
acaagattag	gaggggggaa	aaacctgaac	aaatcctgga	acacacctat	gtattttacgt	60
catgggaaaa	ggggagagaa	cacttcaaata	atcaacaagt	tctgcgccat	taactcatta	120
atagctaaat	ggccacacca	aattgcatgt	gaatgtaga	acctctcaga	tagccacaat	180
aagtccatat	ttttttttta	aaaaaggaaa	acacagaaat	aactaccaac	agtgtctgag	240
aagagagact	aagttaacat	acattgcatg	tattgcaggc	aaggcagagg	cattttttta	300
aagcttttgc	acagacttca	tataatctta	aaaaaaatat	gcaggccttt	gcaagatttg	360
acttgctgaa	atccaaacaa	ttttgactca	tgaaaagtca	taagacttca	gctgaaaaaa	420
aagaaaaaag	ttccagcctt	agaccaaaaa	aaaaaacctg	gaanagtntg	atagatttaa	480
cnanggtngg	cacgct					496

<210> 126
 <211> 631
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(631)
 <223> n = A,T,C or G

<400> 126

ggtacacatt	gttaccaa	agggtgttct	cttccccacc	cacctttgag	cttttgctct	60
aaaatacatt	cagggtccaa	gcctgacccat	ccttggtttaa	tctatcatac	tcttccaggt	120
tttttttttt	ggtctaaggc	tggaactttt	ttcttttttt	tcagctgaag	tcttatgact	180
tttcatgagt	caaaattggt	tggatttcag	caagtcaaat	cttgcaaagg	cctgcatatt	240
ttttttaaga	ttatatgaag	tctgtgcaaa	agctttaaaa	aaatgcctct	gccttgccctg	300
caatacatgc	aatgtatggt	aacttaagtc	tctcttctca	gacactgttg	gtagttattt	360
ctgtgttttc	cttttttaaa	aaaaaatatg	gacttattgt	ggctatctga	gaggggtctaa	420
cattcacatg	ccaatttggg	ggtggncatt	taactattaa	tggagttaat	gggccccaaa	480
cttggtgata	ttttnaaggg	gtctcttccc	ntttttccaa	tgccgtaant	cntttngggg	540
tgggtccagg	aatttgntcc	aggntttttc	ccccnccata	aatnttgaac	cttgncncng	600
cnggnccttt	caaagggcna	attnnanccn	t			631

<210> 127
 <211> 518
 <212> DNA
 <213> Homo sapiens

<400> 127

cagggtactcg	gtgcttccca	acacctcctt	attggaaaac	agccaaggag	atgggtggcta	60
actggaggca	tcaccagca	gtggtggagc	agtggagcaa	ggtcatttgt	gcactcactt	120
ccagattgct	acgctttaca	tatggtcctt	catttcctgc	atttaaagtt	cccgatgaag	180
atgccagtct	gatccctcca	gaaatggata	atgagtgtgt	tgcacagaca	tggtttcgct	240
ttttacacat	gttaagtaat	cctgtggatt	tgagtaaccc	agctattata	agctctactc	300
ccaaatttca	ggaacagttc	ttgaatgtga	gcggaatgcc	gcaagaattg	aatcagtatc	360
cctgccttaa	acatctgcct	caaatatttt	tctgtgccat	gcgtggaatc	agctgtctgg	420
tggatgcatt	cttaggtatt	tctagacccc	gatcagacag	tgctccccca	acaccctgta	480
atagattaag	tatgcctcaa	agtgtgtgctg	tcagtacc			518

<210> 128
 <211> 865
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(865)
 <223> n = A,T,C or G

<400> 128

accaaaggat	agctgttctg	tttaagtagg	gacctctcat	ggcctacagg	ctttgacatc	60
tgagaatcaa	actgggagaac	attccgaagc	cgttcttata	agtgtctcca	tctctacctg	120
ggctgaaatg	gaatgtgcaa	atgtagccca	gcctggctct	tgggtgttgc	cagttgattg	180
atgactggga	gccaaagtgg	catctccttt	gacctaaacg	ggcgatgatg	aaataaaact	240
caacagcctt	tctctcatct	tgcattgtga	gatgcgaaat	agagcgtgtc	tctctgcctc	300
tcatttttagg	ctgaggccgt	ccaaagcggc	catgccccat	gtttccacta	gatggcgctg	360
acacttcagg	catcaaccct	catggcctct	cagccttgca	aaggcagcca	cttaaagtgc	420
gtgtcctgtg	tggggcacca	agctgagctg	cagacaccca	gtaggcgcgga	ggcaaatgcg	480

tcccatttta	agaggcttgt	atztatgagc	tctttgcttc	ctccctccca	ctatctttaa	540
agaattgctc	tccatctcct	ttggcaaagt	tcctttgccc	tttgncctat	ttttgtgaaa	600
cccttcaagg	tatttccagt	ccatttgcac	ccaatctggc	atctttacng	aanagcggtc	660
tcatatgcta	ttggtggtaa	cgtgggacta	gtatttatgn	ggttgagaac	cacttggtcg	720
tttgtcaagg	aaaagtgtgc	ccaaaaacca	agaagtacct	ttggccgnga	accacgctta	780
aggccgaaat	tctgnagata	tncnntcaca	cttggcgggc	cggttcgaac	cttgcatnta	840
aanggnccca	atttggccct	tatag				865

<210> 129

<211> 910

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(910)

<223> n = A,T,C or G

<400> 129

tactctttgt	tttggcacac	ttttcctgac	aaacagccag	tgttctcaac	acataaatac	60
tagtccacgt	taacaacaat	agcatatgag	accgctctcc	gtaaagatgc	cagattggat	120
gcaaatggac	tggaaatacc	ttggagggtt	tcacaaaaat	aagacaaagg	gcaaagggaac	180
tttgccaaag	gagatggaga	gcaattcttt	aaagatagtg	ggagggagga	agcaaagagc	240
tcataaatac	aagcctctta	aaatgggacg	catttgcctc	gcgcctactg	ggtgtctgca	300
gctcagcttg	gtgccccaca	caggacaccg	actttaagtg	gctgcctttg	caaggctgag	360
aggccatgag	ggttgatgcc	tgaagtgtca	gcgccatcta	gtggaaacat	ggggcatggc	420
cgctttggac	ggcctcagcc	taaaatgaga	ggcagagaga	cacgctctat	ttcgcatctc	480
acaatgcaag	atgagagaaa	ggctgttgag	ttttatttca	tcacgccccg	tttaggtcaa	540
aggagatgcc	actttggctc	ccagtcacat	atcaactggc	aacacccaag	gaccaggctg	600
ggctacattt	gcacattcca	tttcagccca	ggtagagatg	gagaccttat	aagaacngct	660
tcngaattgg	ctncagtttt	gaatctcaga	tgtcaaaagc	ctgtaagncc	atgaaaggctc	720
cctacttaaa	ccggaaccag	ctatcctttg	gnanctggcc	gggccggggc	ggttcgaaaa	780
gggcgaaatt	ccacaccact	tgggcggccc	gttacttaan	ggaatcccga	actttggnan	840
cccaagcntt	ggcggtaaat	catgggccat	anctggggtt	cctggggggg	aaaatggtat	900
tcccttccca						910

<210> 130

<211> 932

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(932)

<223> n = A,T,C or G

<400> 130

taccgcttgt	ttatccaaat	tttctctctg	aagtggagca	tctgctagga	tcaatagcag	60
cagtgttaag	caggaagcta	cattctgttc	ccaaagggat	ggcgatacct	ctttgaataa	120
agccctatcc	tcaagtgtcg	atgatgcgtc	tttggttaat	gcctcaattt	ccagctctgt	180
gaaagctact	tctccagtga	aatctactac	atctatcact	gatgctaaaa	gttgtgaggg	240
acaaaatcct	gagctacttc	caaaaactcc	tattagtcct	ctgaaaacgg	gggtatcgaa	300
accaattgtg	aagtcaactt	tatcccagac	agttccatcc	aaggggagaat	taagtagaga	360

aatttgctctg	caatctcaat	ctaaagacaa	atctacgaca	ccaggaggaa	caggaattaa	420
gcctttcctg	gaacgctttg	gagagcgttg	tcaagaacat	agcaaagaaa	gtccagctcg	480
tagcacaccc	cacagaaccc	ccattattac	tccaaatcaa	aggccatcca	agaaagatta	540
ttcaagcaag	acacatcttc	atctactacc	catttagcac	aacagctcaa	gcaggaaccg	600
tcaaaaagaa	ctagcatgtc	ttcgtggccc	gatttgacaa	gggcaatatt	atggaggtgc	660
agaaaaaggg	nggaaactca	aaaagcnaac	cacctnggaa	anccaaacng	ggaaaacttc	720
acttggtcaag	agcactcccc	tnaaaaaaa	ccnccccaa	gggggttnca	aaaactcagt	780
cccnttccgg	taaccngaaa	aagggggacc	cgaaaacccc	cganaccng	gccccaaaat	840
tntaggacct	tgccccggcg	ggccccntnc	aaaangggcg	aaatttttgg	gaaaatccat	900
tnnnccctngg	cggggcnggt	tttgaccatt	cn			932

<210> 131

<211> 890

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(890)

<223> n = A,T,C or G

<400> 131

actagaattt	ttggctggta	tctggttttc	ggtcaccttt	tctgttactg	gaagtgactg	60
agtttttgaa	acaccttggt	gttttttgag	gggagtgttc	tgacagtgag	tttcctgttt	120
ggttttctagt	tgtttgcttt	ttgagtttcc	gcctttttct	gcactccata	tattgccctt	180
gtcaaatcgg	ccacgaagac	atgctagtct	tttttgacgt	tcctgcttga	gctgttggtgc	240
taaattgggtg	gtagatgaag	atgtgtcttg	cttgaataat	ctttcttgga	tggcctttgt	300
at ttggagta	ataatggggg	ttctgtgggg	tgtgctacga	gctggacttt	ctttgctatg	360
ttcttgacaa	cgctctccaa	agcgttccag	gaaaggctta	attcctgttc	ctcctgggtg	420
cgttagatttg	tcttttagatt	gagattgcag	acaaatttct	ctacttaatt	ctcccttgga	480
tggaaactgtc	tgggataaa	ttgacttcac	aattgggttc	gatacccccg	ttttcagagg	540
actaatagga	gttttttgaa	gtagctcagg	at ttgtgccct	cacaactttt	agcatcagtg	600
atagatgtag	tagattttcac	tggagaagta	gctttcacag	agctggaaat	tgaggcatta	660
accaaagacg	catcatcaag	cacttgagga	tagggcttta	ttcaaagagg	tatcggcac	720
cctttgggga	accagaatgg	aagcttnctg	cttaacactg	ntgctatgga	cctanccana	780
agctccactt	tgcanaangga	aaattttggat	aaaccagccg	ganccttggc	cgggaancac	840
gcttanggcc	gaattccnca	cacctggggcg	gncgggttacc	taagggaacc		890

<210> 132

<211> 606

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(606)

<223> n = A,T,C or G

<400> 132

actcaggcac	ttcacagttt	acttgaaaga	ggcttttgaa	aatagataaa	gtgaaagaag	60
aataaatata	tattttta	aatgtaattt	taaaaatcct	ttataatcag	gactaagtct	120
tggtttgcag	aagctgtcac	ttaccctgaa	acacagtatc	aaaagggaaa	cttaaaacat	180
actgtttgat	ttttttattt	cctcttacaa	tccatgtttt	caggtagaat	tatgactttc	240

ccccattgt	tacacatttc	tttacaaagg	aggcctgtag	aaattggaca	cgatcatgct	300
tgagcatgtg	agttagtcaa	attatgagtc	cctgcctatt	gtccattaca	caccgaatgt	360
taattttaaga	accagaggca	gaagttctgg	cttcctgctt	gaaacccaat	tcttatatga	420
aaatttttaaa	aagccagaac	ctagcagccc	atctgnnttt	tctcttttgc	cggnagnattt	480
gganccttgg	cgggaaacacc	cttanggggn	aattcngnnc	acttgggggc	cggtacttan	540
ggganccaac	tttgggcca	annttgggga	aancagggcn	anattngtnc	ctggggnaaa	600
tggtnn						606

<210> 133

<211> 606

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(606)

<223> n = A,T,C or G

<400> 133

ggtacttttc	cttaatcttc	ttctttcttc	tcttgtcacc	atccttcttt	tctttcttct	60
catcagaacc	aacatcttca	atttcagggt	tgtcttcga	ctctttctct	tctttttctt	120
tttcttcttc	tttgtcttcc	ttttcttcag	cctcatcatc	gcttacttct	ttatcacggt	180
ccttctccac	aaaaagagta	atgggatatc	caataaaactg	agaatgtttc	ttcacaatct	240
cctttattct	tcgttcctcc	aagtacttta	aatttagtgg	ttgctggagc	acctaaaagt	300
cagattgtca	tgttggaagc	ctctgcagag	aacattttac	agcaggactt	ttgccatgct	360
atcaaagtgg	gagtgaata	tacccaacaa	ataattcagg	gcattcagca	gttggtaaaa	420
gaaactgggtg	ttaccaagag	gcacctcaga	aggatattac	cccttcgcag	agaatgngaa	480
atatactcat	aaacctgcta	tggagagact	ctatgcagtt	ttacagatac	gagcatgaca	540
agggttcngga	gatgaagctg	taccaaataa	gatagatccn	gnngaccact	aaangaaaat	600
tccgag						606

<210> 134

<211> 598

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(598)

<223> n = A,T,C or G

<400> 134

tacntcacca	tcccgtatatt	gctgctgtnc	canaaggcat	ngncaaattg	agggtcatatc	60
tngatagcan	cagggtaaac	tgtgggtcca	atttcaaaac	ttncctttat	gaacatcatc	120
accgangtat	tattgatgca	ggntccttct	gngaagatga	ggataggcag	ctngctttta	180
tcttgcacat	gttcannnan	ncntntagcc	accanntggc	natccttcac	ttccgagcgc	240
tcaaaccaga	cgtgtggncn	ggccttcacc	atggntctct	gaatcacacc	catgagtccc	300
ccgtgcactt	gacccaccat	ggcataatan	ccatcgctgg	ccaagatgat	cacatcgatc	360
ggtgaggnat	gattggccac	acagatgcca	ccatttcttg	gtctgntttc	cctgtcatgg	420
taggtgatga	tggctgtcag	cgctcgcacg	cagatccggg	aacacattaa	ctgaacatgt	480
ttactcatga	actccttaaa	cctcccattt	ggcangtatc	ccaccacagn	tgtgcccacc	540
accagaaggc	taatccctgt	gaaagccagt	gctatcctga	gcggcancag	aaagcagt	598

<210> 135
 <211> 617
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(617)
 <223> n = A,T,C or G

<400> 135
 actgctttct gctgccgctc angatagcac tggctttcac agggattagc cttctggtgg 60
 tgggcacaac tgtggnggga tacttgccaa atgggaggnt taaggagttc atgagtnaac 120
 atgtncactt aatgtgttac cggatctgcg tgcgagcgct gacagccatc atcacctacc 180
 atgacaggga aaacanacca agaaatggtg gcatctgngt ggccaancat acctcaccga 240
 tcgatgtgat catcttggcc ancgatggct attatgccat ggtgngtcan gtgcacngcg 300
 gactcatggg tgtgattnag agagccatgg ngaanngcct gccacacgt ctgggtttgag 360
 cgctcggaag tgaatgatcg ncacctggtg gntaananac tgactganca tgtgcangat 420
 aanngcnagc tggctatnct catcttccca ganggancct gcatcaatna tacatcgntg 480
 atgatgttca aaaagggaag ttttgaactt ggagccacag tttaccctga tgctntcaag 540
 tatgaccctg aatttgncga tgccttctgg aacagnagca aatncngtat ggngactanc 600
 ctcggncggnn ancacgc 617

<210> 136
 <211> 610
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(610)
 <223> n = A,T,C or G

<400> 136
 cgtgccgtag gccggaatgt taccggtgt tggatctgcg gatgaggagg aggatcctgc 60
 ggaggaggat tgtcctgaat tggttcccat tgagacgacg caaagcgagg aggaggaaaa 120
 gtctggcctc ggcgccaaga tcccagtcac aattatcacc gggatatttag gtgctgggaa 180
 gacaacactt ctgaactata ttttgacaga gcaacatagt aaaagagtag cggtcatttt 240
 aaatgaattt ggggaaggaa gtgcgctgga gaaatcctta gctgtcagcc aagggtggaga 300
 gctctatgaa gagtggctgg aacttagaaa cggttgcctc tgctgttnag tgaaggacag 360
 tggccttaga gctattgaga atttgatcaa aagaaagggg aaatttnatt acatactggt 420
 agagacnctg gattanccng accctggtgc cantggcttn tantgttttg ggttgaagct 480
 tnaattaggg nngtnttta acttgagggg ttnttacttt tgggggttca antttgggtt 540
 aaacttttnn cnaaaaaaac cttgangcct tnttaatgan nnttttngca agttttttgc 600
 canagccttt 610

<210> 137
 <211> 645
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(645)

<223> n = A,T,C or G

<400> 137

acaattccaa	gtgcttatag	ccaatataag	catatttcat	attagaaata	gttatccata	60
tgtaacaag	aaactatggg	cctcaaatat	gccaatttta	gagtctaata	actactgata	120
gtaactatgt	aaatatTTTT	gaataaacag	ttatttacgc	aagccacact	tcagctgaga	180
tgatcactag	acatctgttt	ccagagcttc	aacaatgtgt	gcagcagaag	gacgatcttt	240
agggtcttca	ttagtgcata	cagagaagag	ttcaattact	ttctggtatg	attcatccag	300
ttcttccata	ttaatagggtg	gcctagttcc	caaggctgca	tagtatgctt	catcatcaaa	360
atcactttca	tcaaaaagttt	tatcttcatc	atcatcatca	tttgaaagat	taatgtgtgg	420
aaatccgata	aaagtcatca	tttcccacaa	agtaagggcc	aangccaaat	atgtctggcc	480
tggccagtaa	taacacccat	tcttcttcac	aggnttcttt	tggggtttnc	atggnttctg	540
ggnccaatgg	taaccaggnc	ctaangggtc	aggctccggg	cataattttc	aatncccngg	600
gganaaaaag	acctcctaaa	nttnccagaa	tttnaatngg	ttcna		645

<210> 138

<211> 612

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(612)

<223> n = A,T,C or G

<400> 138

ggtactcctg	gtcacttaag	atctgatact	gaacattcta	caaatgaagt	tgggacttta	60
tgtcataaaa	ctgattttaa	taatcttgaa	atggccatta	aggaagatca	gattgcagat	120
aactttcaag	gaatatcagg	tcctaaagaa	gacagcacia	gtataaagg	aattcagacc	180
aggattcttt	tcttcatgag	aattcgttac	accaagaaga	gagtcaaaaa	gaaaatatgc	240
cttgtgggga	aacagcagaa	tttaaacaaa	agcaaagtgt	taacaaagga	aaacaaggaa	300
aggagcaaaa	tcaggactca	cagacagagg	cagaagagct	acgcaaactt	tggaaaaccc	360
atactatgca	acaaaactaaa	cagcanaggg	aaaatattca	acaagtgtca	caaanagaag	420
ctaagcataa	aattacatct	gctgatggac	acatagaaag	gtctgcactt	ttaaaagaaa	480
agcanaggca	tcgattacat	aagttcttgg	gtcttagagt	tgggaaaacc	aatgaggaaa	540
accgtttgga	tnttaaggcc	aggtgctacc	aatgccaccg	tntgcengag	ggttaagaaa	600
cctnaatntt	gg					612

<210> 139

<211> 592

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(592)

<223> n = A,T,C or G

<400> 139

ggtactccac	ttcttcttat	tggaagatta	acattatttta	ccaagaagga	cttaagggag	60
taagggggcg	agattagcat	tgctcaagag	tatgtaaaaa	aaaaaaaaaa	aaaagaacca	120
aaccactgga	aataatcaaa	tgcaaaaagg	taacaaattc	ataactggaa	agcaaagaga	180

agaacaagta	tgatttggat	gataaagcat	tgttttaatg	gtgaaaactt	cacagatcac	240
taatgtttct	agagggttaac	ttcaagtggg	caagctgggg	tttttaggta	gtcagtgggc	300
tagttcctaa	agccacagta	taggatctgt	taaactgaat	gtctgttgaa	agtttggttt	360
agctgcttg	aggcttcctt	ttaagacaaa	ctgtatgtga	ttaagttggt	tttgagggaa	420
ctgaagacct	gatgtacccc	tggccagata	actgcctgat	tctcagatat	tattctctgg	480
gaaacatcta	catacacagg	agcttaaant	ggcattatct	cttgccataa	ttcagagatn	540
ttttgnactt	gccggngggc	gtcnaanggc	gaatccgcac	ctggcgccgt	ac	592

<210> 140
 <211> 618
 <212> DNA
 <213> Homo sapiens

 <220>
 <221> misc_feature
 <222> (1)...(618)
 <223> n = A,T,C or G

<400> 140		
ggtncttaca	cgtaagattt tagcctatgg tcattttata aagatgactg ttaggattta 60	
attcacattt	aaagaaaatg agattcgtta tattatgggtg tttttatgac ctataaaaata 120	
cttacccta	caaatttcca taaatgtagt ggtagtaaa gcttttttct tactgaaaaa 180	
taatgccagg	taaccaagta ttattccttc catcatttat ttaggaaaaa gttttatgta 240	
ttagggtaaa	gtggtagaag ttaacctaga atctaataat ctccaatcac ccattcctga 300	
tctaataagt	agccatgaga aaaaatctct agaaagaatc atacctctca aaaaataaaa 360	
tatnaaacia	aggctgggtg cagtggctca cacctgtaat ctnagcactt cccngaagtt 420	
gaggtgggca	gatcgcttga gcctaggcat atcgcttgna gcctgggcaa ctgtggccaa 480	
accggtcttn	tacaaaaaaa atcncnaaag tagcccgcc ttagggccat accacctnga 540	
gccagggan	ggtnaagnct accttgganc ngtgattgga ncctgcccng gtgngcgttc 600	
gaaaaggcn	naaatnnt	618

<210> 141
 <211> 551
 <212> DNA
 <213> Homo sapiens

 <220>
 <221> misc_feature
 <222> (1)...(551)
 <223> n = A,T,C or G

<400> 141		
ggtacttcaa	actctcttaa cggtgatgct ctgacattca ctactacatt tactctgcaa 60	
gatgtatcca	atgactttga aataaatatt gaagtttaca gcttggtgca aaagaaagat 120	
ccctcaggcc	ttgataagaa gaaaaaaaca tccaagtcca aggctattac tccaaagcga 180	
ctcctcacat	ctataaccac aaaaagcaac attcattctt cagtcattggc cagtccagga 240	
ggtcttagtg	ctgtgcgaac cagcaacttc gcccttggtg gatcttacac attatcattg 300	
tcttcagtag	gaaataactaa gtttggtctg gacaaggctc cctttttatc ttctttggaa 360	
ggtcatattt	atttaaaaat aaaatgtcaa gtgaattcca gtgttggaaga aagagggtttt 420	
ctaaccatat	ttgaagatgt tagtggtttt ggtgcctggc atcgaagatg gtgtgtcttt 480	
tctggaaact	ggatatctta ttggacttaa cccgatgatg agaancgcaa ggtaatttat 540	
atagtacctg	c	551

<210> 142
 <211> 601
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(601)
 <223> n = A,T,C or G

<400> 142
 cgaggtacat ggtctatgcc tcccaggaga cgttcgggat gaaattgtca gtgtaaaacc 60
 agaaaaaatg catctcttct agaattgttt aaacccttac caaggaaaaa aaaggggtgt 120
 taccaactga gatcgatcag ttcattccaat cacagatcat gaaacagtag tgttcccacc 180
 taggagtgtt gggaagtgtt gtttgtgttt caagcagaaa aactgagctc caagttagca 240
 cattcagctt tggaaactat attatttaat gtgggctagc ttgttttcaa attttaaaag 300
 tttaaaaata aaatactttg cattctaagt tgccaataaa atagaccttc aagttatttt 360
 aatgctcttt tctcactaat aggaacttgt aattccagca gtaatttaaa ggctttcaga 420
 gagacctga gtcttctctt caggttcaca gaaccgcgcg nctttttggg tagaagtttt 480
 ctactcagct agagagatct cctaagagga tcttttngc ctgagttgtg aangcaccnc 540
 ngcaaacgca ttgccttcca nttggcacaa acnccggtna acggcttgtg ttaaaaaccg 600
 c 601

<210> 143
 <211> 515
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(515)
 <223> n = A,T,C or G

<400> 143
 ggtnncgtaa agaatatatc ttatctggag ctccagcctca atcatgtctt aacaaaatga 60
 caggtctnan aaagggggag ctcaatagct caaaagtgac aagtcctttt cacagcaccg 120
 ttctcagaac acctctgagt aacgtgtttg ccagtagcta ttctcactga tgcactgatg 180
 gccctgaaga agcggatcca gtcacatagg aaaggaggct gtgttagtga aagcacatgg 240
 aagggtgtgn tttagaaaagg tagtcaggaa aaacattcag gaatagattt atacaccatt 300
 attgnattat ttntaaattt tcattcactc ttctgtttgg atacttttgc taattaaccg 360
 tcctatgtta atanccacca aagctataag tccatagtca gtaaaacatt ccccttgggc 420
 tgtctgagct aaaagcantg gcatctccgn atgtnggaca tccnagaaat agnttgggtac 480
 ctgcccnggc cgnncgttct taaggctaatt ccngg 515

<210> 144
 <211> 436
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(436)
 <223> n = A,T,C or G

<400> 144

ggtaccgctc	aggattccca	tcccaagaca	cccggctcctt	aaaccgcca	ctcatgggtt	60
ggaagggatc	tatgtggtag	tagaatacaa	actgctcagg	tccccctct	agaggacgaa	120
aattccaggt	cactgttaga	gcatcaccca	caggggcaaa	gctggagaaa	gtgcatttta	180
accgagcatc	tgtcccatta	acagcctcca	gcacccggga	ggtataaatt	tccacagctg	240
ctataggcca	aagagctgtg	agctgtatgc	caaggagaag	aagcaccgca	cgagtagagc	300
tcttgccata	catgagggaa	acccagcctt	ggccccagag	accggacggg	gcagaccgag	360
ggctccaaca	ccctgccaa	gccactccgg	gaggagcaag	caccgcgttt	tnccagagag	420
aggagtttga	gttag					436

<210> 145

<211> 441

<212> DNA

<213> Homo sapiens

<400> 145

ggtacatccc	cactatcatc	cgccgggatg	acccctccat	catccccatc	ctctacgacc	60
atgagcacgc	aaccttcgag	gacatccttg	aggagataga	gaggaagctg	aacgtctacc	120
acaagggagc	caagatctgg	aaaatgctga	ttttctgcc	gggaggtcct	ggacacctct	180
atctcctcaa	gaacaaggtg	gccacctttg	ccaaagtgg	gaaggaagag	gacatgattc	240
acttctggaa	gcggctgagc	cgctgatga	gcaaagtga	cccagagccg	aacgtcatcc	300
acatcatggg	ctgctacatt	ctggggaacc	ccaatggaga	gaagctgttc	cagaacctca	360
ggaccctcat	gactccttat	agggtcacct	tcgagtcacc	cctggagctc	tcagcccaag	420
ggaagcagat	gatcgagacg	t				441

<210> 146

<211> 624

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(624)

<223> n = A,T,C or G

<400> 146

acgtctcgat	catctgcttc	ccttgggctg	agagctccag	gggtgactcg	aaggtgaccc	60
tataaggagt	catgaggggtc	ctgaggttct	ggaacagctt	ctctccattg	gggttcccca	120
gaatgtagca	gcccattgatg	tggatgacgt	tcggctctgg	gttcactttg	ctcatcaggc	180
ggctcagccg	cttcagagaag	tgaatcatgt	cctcttcctt	ctccactttg	gcaaaggtgg	240
ccaccttggt	cttgaggaga	tagaggtgtc	caggacctcc	ctggcagaaa	atcagcattt	300
tccagatctt	ggctcccttg	tggtagacgt	tcagcttcct	ctctatctcc	tcaaggatgt	360
cctcgaaggt	tgcgtgctca	tggtcgtana	ggatggggat	gatggaaggg	gtcatcccgc	420
ngatgaatag	tgggggatgt	accttggccg	ngaacacgct	taagggccaa	ttccannaca	480
cttgccggcc	gttactaaag	ggatnncaac	tttngnacca	aacttggcnn	aaacaatggg	540
ccnaacttgg	ttccttggng	aaaatgggtt	ccntcaaat	tcccccaan	ttacnaccgg	600
aaccttaaa	ggaaaacctt	gggg				624

<210> 147

<211> 599

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(599)
 <223> n = A,T,C or G

<400> 147

cgaggtacaa	gctttttttt	tttttttttt	tttttttttt	cttttttttt	tttttttttt	60
tttttttttt	tttttttgaa	cncanatan	tttattggca	tggntttgtt	tnaaaaaaag	120
gaaaagngnc	aaanccaaaa	nacanacttt	gntaacaaat	ncctgggggn	ggctggacnt	180
ttttgcctaa	tgctgngcaa	anagggggat	cctggcccan	acatccngct	gattccttgg	240
nacaaggttg	tntgcctggg	cctaantgcn	cctttttgaa	tacttgnttg	caaaccacac	300
nttccanttt	aattttccagg	ggcagntnat	naccctnnat	ccactgggtc	cagccacgcc	360
cntcntttta	acccttttgc	anacactgga	gcttgntccg	tcccagntca	ctgnngnatg	420
cncttgcggn	catttatgcc	tgtcaaacct	ctaaaactcn	ttcccacctg	gaagccatgg	480
angtagttcc	taaaaaggct	caacngnccg	aagaacaana	tgggccccgg	cctggacaaa	540
actttttggc	nggggttaa	aagttggcna	ttttcccaag	gnccanttgc	ctnnnggcc	599

<210> 148
 <211> 609
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(609)
 <223> n = A,T,C or G

<400> 148

ggtacttaag	taatccaaag	ctcgatcctg	atctgcatga	attagcatca	taaatgcatt	60
cctttttgcaa	cttgcatcct	tctcattcac	cagaaaatca	tgtatcagtt	caggagcatc	120
aggtataaga	tggtcaaaat	ttctatagat	ggtatagatg	gccaaaacag	catttcttct	180
aacatagctg	tgctgatgct	ccaaacatgc	acgaatagct	ggcattaaag	gttctagcaa	240
ttctgcttct	ttcaatttgc	aaagaaaacg	aagagtagat	cctcgaataa	attcattagg	300
atgttgaaga	tcctttctgt	atgcatcaca	tacaaggatc	atctcatgta	aaagtctccc	360
atctggagtt	gttttaggaa	caatttccca	aaataccaga	agtaatttct	tgatagtgtg	420
atcctgaaga	aggttagcaca	naacgaatgg	atggtcatca	gaaagtnacg	gaagttttct	480
accaatttcag	aatcataatg	gattaccttt	cttcaaagct	tcagtctttg	actttacttc	540
ttcctttttc	taaaatcatt	ttttaagctt	aattttccaa	tggngngggtc	ttgaatccat	600
gggcncgtn						609

<210> 149
 <211> 589
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(589)
 <223> n = A,T,C or G

<400> 149

actcaggtag	aaccatcatg	aaaatgaccc	acagtgaact	tatggaaaag	ttcttaacag	60
------------	------------	------------	------------	------------	------------	----

attattttaaa	tgacctccag	ggtcgcaatg	atgatgacgc	cagtggcact	tgggacttct	120
atggcagctc	tgtttgtgaa	ccagatgatg	aaagtggcta	tgatgtttta	gccaaccccc	180
caggaccaga	agaccaggat	gatgatgacg	atgcctatag	cgatgtgttt	gaatttgaat	240
tttcagagac	ccccctctta	ccgtgttata	acatccaagt	atctgtggct	caggggccac	300
gaaactggct	actgctttcg	gatgtcctta	agaaattgaa	aatgtcctcc	gcatatttcg	360
ctgcaatttt	ccaaacgtgg	aaattgtcac	cattgcagag	gcagaatttt	atcggcaggt	420
ttctgcaagt	ctcttggtct	cttcttcaaa	gacctggaac	cttcaaccct	gaaagtaagg	480
agctggtaga	tctggtgtaa	ttcacgaacg	aaatcaaact	ctgctgggct	cctctgtana	540
gtgctccacc	cagtgattgg	cctagacact	ctgggagcaa	ctggccccc		589

<210> 150

<211> 353

<212> DNA

<213> Homo sapiens

<400> 150

ggtacaaaaga	aatttttggat	agcaaaaataa	aggaatcttt	acccatagat	atagatcagc	60
tatcaggaag	ggacttctgc	cattcaaaaga	aatgacaggg	aagtaacact	gaggaaatag	120
actcaagaat	ccgagatgca	ggtaatgata	gtgccagcac	tgctcctagg	agcactgagg	180
agtctctttc	tgaagatgtg	ttcacagaat	cagaactttc	ccctatacga	gaggagcttg	240
tatcttcaga	tgaactgcga	caagataaat	cttctgggtgc	gtcatcagaa	tctgtgcaaa	300
ctgtcaatca	ggctgaagta	gaaagtctga	cagtcaaatac	agaatctact	ggt	353

<210> 151

<211> 492

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(492)

<223> n = A,T,C or G

<400> 151

ggtacctact	ggtgctgaaa	aaaggaaaaat	tccggcttga	aggaaaggag	tttagaactc	60
tgaaaatttg	gtgacattgt	ttttccctga	aagaaatgtg	tgttggattt	aacagatgaa	120
attatctgcc	ctccaaaagt	ccttttagaag	agccagtgca	aggctgaaga	ccaaagcgctc	180
aagaacacgc	cagactctca	gcttccctctg	ctttgtctct	ttgttgagga	aatgcaaata	240
caaagagctt	cccgttaaaa	acaaggagtgc	tctgagagcc	acgtgttcaa	cacgcttctc	300
ctgctgctga	cccctctgca	cctgcagagg	cagtgcagcac	ccaacagggtg	gcgccaaggc	360
gcccgtcaca	cgctcacgtc	ctctggccag	cagccacgtt	tattgaagga	gtgtggcact	420
gcccatcatt	ggatatgccc	tccggccatga	aggattccag	tggttcacgc	tgnccagtat	480
atacaaaaat	gt					492

<210> 152

<211> 597

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(597)

<223> n = A,T,C or G

<400> 152
 ggtacataag cctaaacaat ttcacctagg taaaatattg atgtcataac caaactatat 60
 ggccccgttt cataaagggtt actatattct atagagagtg aagaggtggc ctttctatcc 120
 cagcttacc cttattctgtt attgttcaaa ttctcctgaa gcttgcataa ctagctgcca 180
 tcaggtaaat gctattggct agcagaagac tgcagttctg ttaatatagg aaccagcagg 240
 gggaacttgg gaacttgaca ttaaaaatct agaaacagaa ttttaggatg ggtctcgtaa 300
 gaaacctgaa ttgttaatgg acttaagtaa aaaccatccc aaagaatttg agctttaagg 360
 tgataaccgt cttttcagag atcatagcac atgaagaacc catggacact acacagacta 420
 tgaaccggta gcagaaaaag atctcgtgac taaagtgggg gatgacagca aaaaaaaaaa 480
 ttaccaaagg aaaaaagttg agaatncagg aatattacca gatggtaaaa aatattatct 540
 tangccaaat gaggcccttc ggattcccaa accttgcttc ttctcctttc gtcttgn 597

<210> 153
 <211> 596
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(596)
 <223> n = A,T,C or G

<400> 153
 actggttgct acccattttt tcaagtctag gtgatggctg ctcttttcca acttgccctg 60
 ttaaccagga tcctgaacaa gcatctactc ctgcagggtc gaattccaca gctaaaaatc 120
 tcgaaaacca tcagtttcct gcaaagccat tgagagagtc ccagagccac cttcttactg 180
 attctcagtc ttggacggag agcagcataa acccaggaaa atgcaaagct ggtatgagca 240
 atcctgcatt aacctgggaa aatgagactt aactcttcaa gcaagataaa ttcatacttt 300
 ataaaagtat caatgctgta gatggatgga agaggcttcc cacaggaagg tgccaccagt 360
 cagtttgtgc ctatgtccct ttggctggaa atgcagaata tgaattgatt aagttctctt 420
 ccaagccatt gcttaaaata taacatgttt tgggatccaa tacacacatt ggtacaacta 480
 acacaaattc ctattaaata ttaaaagtag ttctgggtta ttaatcaacg gggaaaacat 540
 tttttccaaa aaaacttgga ataatccan ggaccagtgt tancccaata tttggg 596

<210> 154
 <211> 297
 <212> DNA
 <213> Homo sapiens

<400> 154
 ggtacccagt ttcaaagctc tctggttttt tctaagaaat gaagcaagga taggaacccc 60
 ttctcccaga acaggcctca aatctatctt caaagggtgac ccagcaatca gtgtcaatgc 120
 ctttactgta gttaacctgg taatttcatt ctttagtctc tccaagaaaa tctgaagtgt 180
 attaggcaag tcagaaccca aattgtctcc aagggttgcaa ataatttgct ccatacagga 240
 aatagccctt tccttgactt cctgatcaat gtcagctgct ttaaatctct taatggt 297

<210> 155
 <211> 594
 <212> DNA
 <213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(594)
 <223> n = A,T,C or G

<400> 155
 ggtacttgaa ggagaacagt ttacatcggg cgttagccac cttgcaggag gagactactg 60
 tgtctctgaa tactgtggac agcattgaga gttttgtggc tgacattaac agtggccatt 120
 gggatactgt gttgcaggct atacagtctc tgaaattgcc agacaaaacc ctcatgacc 180
 tctatgaaca gggtgttctg gaattgatag agctccgtga attgggtgct gccagggtcac 240
 ttttgagaca gactgatccc atgatcatgt taaaacaaac acagccagag cgatatattc 300
 atctggagaa ccttttggcc aggtcttact ttgatcctcg tgaggcatac ccagatggaa 360
 gtagcanaga aaagagaaga gcagcaattg cccaggcctt agctggcgaa gtcaagtgtg 420
 gtgcctncat ctctgtctcat ggcattgctg ggacaaggcc tgaagtggca gcacattcag 480
 ggattgcttc ctctgtgtat gaccatagaa tttggttcga ggcaaggcac tgtcaaagat 540
 gtggaagaag aaaagtttct acacactgag caggcttata agttnggcag aaan 594

<210> 156
 <211> 294
 <212> DNA
 <213> Homo sapiens

<400> 156
 acaggatgca gtttctcagc tggattctga gctgatggac ataactaagc tttatgggga 60
 atttgctgac ccattttaaac ttgcagagtg caaacttgca ataattcatt gtgccgggta 120
 ttcagaccct atattggtgc agacactttg gcaagatata atagagaaag aattgagtga 180
 cagtgtgaca ttgagctcct cggatagaat gcatgctctt agtctcaaga ttgttctcct 240
 tggcaaaatt tatgctggca caccacgctt ctttccttta gattttattg tacc 294

<210> 157
 <211> 527
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(527)
 <223> n = A,T,C or G

<400> 157
 ggtactgatt gtcacacctga ctttggcatt ggcagctctt atattccgac gaatatatct 60
 ggcaaacgaa tacatatattg actttgagtt ataatatggt tttgtgactt atgagctgtg 120
 actcaactgc ttcattaaac attctgcatt gggatataatc taagaattgt ttacaaaaag 180
 attatattgt atttaccctt cattcctttt tttgatcctt gtaagttag tataaatata 240
 tctagacatt cagactgtgt ctagcagtta cgtcctgctt aaagggacta gaagtcaaag 300
 ttccttgctt cactatattga tctgctttgc agggaaataa cttgnttttt ctcatgtttc 360
 atcttctttt tatgtaaatt tgtaatactt tcctatattg ccctttgaaa tttttggata 420
 aaagatgatg gtttaagttc caatgagtat tactaggtac tcaataccac ttattggagt 480
 cctggcccng ggcgggcgnt tcgaaanggc caaatncagc accactg 527

<210> 158
 <211> 617
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(617)
 <223> n = A,T,C or G

<400> 158
 ggtactgaaa aagaggcgtg aggtgctccc tgtggatata accaccgcta aagatgcatg 60
 tgtcaacaac agtgctctcg ggggagaagt ttatcgatta ccgcctcaga aagaggagac 120
 acagtcctgc cctaacagtt tagaagataa caacttgcaa ttagaaaaat cagtttctat 180
 acacacacca gtagtcagtc tctctcctca caaaaatctg cccgtggata tgcagctgaa 240
 gaaggaaaaa aaatgtgtga aactcatagg agttcccgtc gacgctgagg ccttaagtga 300
 aagaagtgga aacaccccta actctcccag gtcagtgtcc tcttttcctc caggcagcca 360
 gcagacctct ccactctctcc tctctcgctg catgaactgt gctgnetgnt tctttatcta 420
 ctttcttaca attgcatgca gtataattcc tcagtttcat ctacctacct tcaacttttn 480
 cagaacttta agaaagactt aaactgattg caangggaaa ggactcttgg aataaggcaa 540
 tcncattaaa aagttacnecg tttctggggt catgaaaggg atntcncagt ttaccccatn 600
 tttgaaagggt ttatnng 617

<210> 159
 <211> 1002
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(1002)
 <223> n = A,T,C or G

<400> 159
 ggtaccagct tacctatttg attcagttgc tgttttctca ctctctatat ccatttgaaa 60
 ttgatttatt ttagatgttg tatacttacg ttaggctttc tggttaatagt ggtttttctc 120
 ctgttgacag agccaccgga ttatgacaca ggatgaggaa gattaaggat aatcaattga 180
 ctaatttcat ttagaatatt atcaaacatt tcaactaggt atcagaaaaa ggcttttctt 240
 cataagacta ttttaaataa aaattatttc aacaattaaa gtaatgttga ccateccccct 300
 ctcagctgaa taaagaaaaa tttagttcaa tttattgcaa ttttaattaca atactacctt 360
 cacaacattt tcatgtgttt taaataaata ttttttaatt ggctaaagga cattcaagca 420
 aagaaatgct ttctttactt aaaatgtcta tctcatttgc tgctttttca ctaagccttt 480
 actttgttaa taaaagtgtc cattgtgtga tgtttttgat tttacagttt gctaaatctt 540
 attttcttgg agttgctttt tggtaacagc tccattgcta ctccccattt tattggttta 600
 catcaatgca tgcttcgttg tgatccctca agatgtaaca cttggtatgc tcgngtgagg 660
 atatgaaaaa atactttccg aaaccaggga attcagtgga tgnttggttt atctgggtgg 720
 ataagaaaag tagggncag ccttaagcag nacagaagcc nctgggtanaa gcatagtcag 780
 ggaacttttt ttaattcntt tangnctaag ggnccaggag ggattnnaaa gggaggagag 840
 cccttattat ggcctatncc ccgntttgga gaagancctt actgggaacc tggcccgccg 900
 ggccgttcaa aagggcgaaa ttccgncacc tggngggccg gttcttaagg ancccnactt 960
 gggcccaaan nttggggaaa nnnngggcna aannggntcc cg 1002

<210> 160
 <211> 434
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(434)
 <223> n = A,T,C or G

<400> 160
 ggtacaagtc atcanggtca gcattctccc actttcaagt gcactaacia ggctgctggg 60
 atttccactg gagtgtcaac agcagtattc ttgttgccagg aactctcaga atttgggggt 120
 ccataacagg tttagcctat gacccaggtc caaaagttcc agccttctct gccacctcca 180
 gagctagctt caggttcttg tcaaagagct cacacctgat aggcatttct aaggaataga 240
 atggattctt gagggcaaag tctgagtaaa tctcataaat ctttcggaga agagaatcta 300
 ttccagcttg cctaggatct gctagaacca caaacttgat ccctgtcagt gtctggtagc 360
 agtgcaattt gaatgtgtct gtctncagca tctcaatgcc tgagcttncc tgttcangag 420
 acagntggna gcc 434

<210> 161
 <211> 652
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(652)
 <223> n = A,T,C or G

<400> 161
 acagactcca agggaagact gggctccaaa gccacatgcc tttgttggca gcgtcaagag 60
 tgagaagact tttgtggggg gtcctcttaa ggcaaatgcc gagaacagga aagctactgg 120
 gcatagtccc ctggaactgg tgggtcactt ggaagggatg ccctttgtca tggacttgcc 180
 cttctggaaa ttaccccgag agccaggaa ggggtcagt gagcctctgg agccttcttc 240
 tctcccctcc caactcagca tcaagcaggc attttatggg aagctttcta aactccaact 300
 gagttccacc agctttaatt attcctctag ctctcccacc tttcccaaag gccttgctgg 360
 aagtgtgggtg cagctgagcc acaaagcaaa ctttgggtgc agccacagt catcactttc 420
 cttgcaaatg ttcactgaca gcagcacggg ggaaagcatc tcgctccagt gtgcgtgcag 480
 cctgaaagcc atgatcatgt gccaaaggct cggtgcgttc tgtcacgatg actgtattgg 540
 accctcaaag ctctgtgtat tgtgccttgt ggtgagataa taaattatgg ccatgggaaa 600
 caaannanan nnnnnnnnaa aaaaaaagct tgnaccttgg ccngnaccac gc 652

<210> 162
 <211> 638
 <212> DNA
 <213> Homo sapiens

<400> 162
 ggtacttgaa gatttgcata aagccaacat tgcgaccgtc atgggtcacag gtgacagtat 60
 gttgactgct gtctctgtgg ccagagattg tggaaatgatt ctacctcagg ataaagtgat 120
 tattgtgtaa gcattacctc caaaggatgg gaaagttgcc aaaataaatt ggcattatgc 180
 agactccctc acgcagtga gtcattccatc agcaattgac ccagaggcta ttccgggttaa 240
 attggtccat gatagcttag aggatcttca aatgactcgt tatcattttg caatgaatgg 300
 aaaatcattc tcagtgatac tggagcattt tcaagacctt gttcctaagt tgatgttgca 360
 tggcacccgtg tttgcccgtg tggcacctga tcagaagaca cagttgatag aagcattgca 420
 aaatgttgat tattttgttg ggatgtgtgg tgatggcgca aatgattgtg gtgctttgaa 480
 gagggcacac ggaggcattt ccttatcgga gtcgaagct tcagtggcat ctccctttac 540

ctctaagact cctagtattt cctgtgtgcc aaaccttate agggaaggcc gtgctgcttt 600
aataacttcc ttctgtgtgt ttaaattcat ggcattgt 638

<210> 163
<211> 1002
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1002)
<223> n = A,T,C or G

<400> 163
acataataat atatataata aatgaacata gttcatgctt tcagataaaa tgagtagatg 60
tatattttaga ttaatttttt tagtcagaac ttcatgaaat ccacaccaaa ggaaaggtaa 120
actgaaattt cccttggaca tatgtgaaat ctttttgtct ttatagttaa acaaagccag 180
agcatctttg tatattgcaa tataacttgaa aaaaatgaat gtattttttt ctccaaagaa 240
cagcatgttt cactcaatgg tgaaaagggt gaaacattta tgtaacttta tgtgtatctg 300
tcttgatata tactgacatt gtctatatga ggaaaatgat tactgggtcat gtcctgtga 360
gttttttggg aaggtagggg catttctccc tgctgtcttt gtgccaaacta gcatgttgca 420
tctacatgca ttatgagtct ggtaggcat tacttttaac atacataaag agacagtagg 480
acattgtggc tgagtctacc cagctcaagg taaaggagaa tattgctaatt tttttagcaa 540
actagaccag cattattact caaactaaaa atatcacacc tgaaaaattt aatttaggac 600
ctaaaatgtc tagattagct ttctgtcttt tttatttgaa taactcattc agttgtgaat 660
gaattcctct ttaattgggt ccacagtcac caaatgacaa ggatttgcca ctttcccccc 720
aaatnggagt gcttgtaatt taggctctct accntnaaat cagtntaagg gaaccgtaat 780
tatgatggat tttttccaag atgaccagct ggggtgaaaa ccatttttct ttggccaatg 840
gcaaaactaa taagctttta aaacttcccc tttatgggga aagtttttaa actgggaaag 900
gttangaacc naccngtgga aancntgga agggaaaaaa anaaaggggn ccttggnccg 960
gaacaccctt aaggggaatt canccattg ggggccttcc nt 1002

<210> 164
<211> 572
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(572)
<223> n = A,T,C or G

<400> 164
acagcatgca tttacaacca gcgctgatct agtctatttt gtcataataa cttgaataca 60
aaaatccaat ttaaataaga ctagacttac tataatagta aacaaacaaa aacaaaaaac 120
aaaaaaaaaa aacacacaca gtagacttag tttgatactg attaatttta agagtaaact 180
catcctgtcc cctcttaata ctctactgca atttattgat ggctagaata tttactgact 240
taaaaaagggt attaaatact tgtatcatga aattacattc ttattaacaa taagacatac 300
tgtgtaagaa aatagctcat gtgtgaaatg tgtctgaaat gcattttttc cttacaacta 360
tcanaacatc cactcacact aaaatgaaac cactcccaac cccccctgaa aaaatgttna 420
gggaagacng ggtgggctgg gggaggagca agggaaggaa aagatttagc tatactaatt 480
acagcacagt gattaacaat ggggtcaggac agaaccaaca gaattnggca aaaaanngcc 540
ctttaaacat ggntaccatt aaaaaccaac nn 572

<210> 165
 <211> 594
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(594)
 <223> n = A,T,C or G

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<400> 165
ggtactggcc tctcggcact ctgctttttc actgactggc tactgaagag caaggcagag      60
.ctgggtggca tctcagaact ggcactctgga cctccctaac tgggccccgc tgggccatt      120
tgctcattag aatttcctct cacatcagtg ggatacagaa ttcagtttct cccttgccag      180
gtccttggga tgggtgaccc ctgcctctgc agtagccttt tgtgagtctg ctaaggtagc      240
tctcacacac ctcggtctctg ggggtgatac ctgagcctac aatagagccc tgaaatcaag      300
agcatagctt gagtgtgtga atatgatgtg tgcacatgct taatgagcgt gcaagtgtgc      360
acacgtttgt ggagaggagg gtgttctggc ctgagaagggt aaagaagagg catgtccagt      420
atgctttgca ggggtgtgtt gctcttttcc atgcccatgc aaccagatt ggggtggagc      480
aggaaggagc tcttttctgt tcccaagcct cagaactctt gagctgtggc ttacttgctg      540
gcttcacag gttcaagctn cgtgggccac actgctgctg ngccaagaag gtgt      594

```

<210> 166
 <211> 434
 <212> DNA
 <213> Homo sapiens

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<400> 166
gcgtcgcgcc cgagggtacta taatgggtccc catcttaatt tgaaagcgtt tgagaatctt      60
ttaggacaag cactgacgaa ggcactcgaa gactccagct tctgaaaag aagtggcagg      120
gacagtggct acggtgacat ctggtgtcct gaacgtggag aatttcttgc tcctccaagg      180
caccataaga gagaagattc ctttgaaagc ttggactctt tgggctcgag gtcattgaca      240
agctgctcct ctgatatac gttgagaggg gggcgtgaag gttttgaaag tgacacagat      300
tcggaattta catttaagat gcaggattat aataaagatg atatgtcgta tcgaaggatt      360
tcggctgttg agccaaagac tgcgttacct ttcaatcgtt ttttaccxaa caaaagtaga      420
cagccatcct atgt      434

```

<210> 167
 <211> 395
 <212> DNA
 <213> Homo sapiens

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<400> 167
acaaagttaa gtttagccct tttctagaaa gtgatcttta aaattaaaat tgctcctctt      60
ttaaattcac caaatttatg tgtgggaagg caccaaatg attttgtaag tgccactgca      120
atattccctt tcaagtgtgg cctaaatttc aatcttaagg atggaatgca tgtctgctcc      180
ttgttctgaa aaatataggc atctactaca ttttaaaaca cagtgaaca tatacataag      240
cctataaaaa aagatttgtg caatttgaaa gcctgttaat tttttatgta gacataccta      300
cacacgaaag ggttaaattc acagccttac tagttccttg cttccagtat ttcaattggg      360
ctcctccctt cattattatt attactacta gtacc      395

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<210> 168

<211> 683
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(683)
 <223> n = A,T,C or G

<400> 168

ggtacggtat	tctaatacaat	gcatttgaaa	agtcagcaaa	agccacacatt	aattcctatt	60
acgcttggtt	cttggttcaa	tctcagcact	ttcagcggct	cttggtgcggc	gattctgtct	120
tggaattatt	tctgtgtctt	gaagatcggt	tttatgtgat	gcttcccagg	cttcctcttc	180
ttctaataaga	tctcttatga	tgtctgaact	ggaactattg	catgaatctg	attctgatga	240
agaaagaact	tcttgaatat	caatacagct	agaagaatcc	tcttctctgt	caggttccaa	300
ttcctctggg	gagtcacagc	ttgattgaga	aaagtgggtt	gttactgagg	tcatattatc	360
ttcctgtccc	atgcatacag	aagatagctt	ttctgtagat	tcattctctt	ttgttattgt	420
tactgttttt	tgtgacattc	cagcaatttt	cttgtatcct	tttctagcct	gatccaccag	480
aagctgaaat	tcactcttat	gttttttaacg	atattttactg	tggatttcat	ctatttcctt	540
ttctgnttgg	tcctttgtta	aaaccattac	acttttcattg	agtttactag	cttcaagacg	600
catcctagtc	ttctctatat	tttcgatttc	tcgaactatt	tcagcagctg	atttaggatg	660
caaagcatcg	cattgggcat	tgt				683

<210> 169
 <211> 408
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(408)
 <223> n = A,T,C or G

<400> 169

ggtacctttc	tgaccacaat	gaaataaacc	tagaaatcaa	taacaagagg	aactttttaa	60
gcagcacaaa	taaatggaaa	ttaaataaca	tgattctgaa	tgaccaatgg	gtaatgaaga	120
aattaagaaa	caaaatttaa	atgtcttaaa	atgagtgaaa	acagaaacac	aacatataaa	180
aatgtatggg	atgcagcaag	agcagtttta	agaggggaag	atttagtaat	aaacacctac	240
atcaaaaaca	agaaagatct	ggctgggcaa	ggagggtcac	acctgtaatc	ccagtgcctt	300
gggagcccaa	ggcaggagga	cgacttgatg	ctgggtcaag	accagcctgg	gccatatata	360
tagcaagacc	ttatctctaa	aaaaaaaaaa	nanaaaaaaaa	aagcttgt		408

<210> 170
 <211> 566
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(566)
 <223> n = A,T,C or G

<400> 170

ggtaccaaca	cagccaaaga	ctgtaagaag	gtagctgaag	tcctctgcca	aataggattg	60
aaaagctaaa	atcttttctt	gtttctttct	taagtaacaa	ctggtctatt	caagctcaac	120
cagagcatat	aagagaaaaa	actgactaac	gagggggtct	taaagagctt	tgaaggacag	180
tttctagaaa	gtagaaagat	cactgagtaa	attactgcac	ctcctctacc	ccacaaaaaa	240
aaggggtgagg	atgaatgtaa	aagtgtagag	caagctttca	gacaacttca	agtttggttt	300
tggcgcttcc	gtttgttaagc	aatcaagatg	gtgagagacg	ctatcccaa	gaagaaagtc	360
tgtaggaacc	agagtagctg	agccccacca	cttgtgatgc	ctttatgctt	gcacaatact	420
atggcatata	aggactctnc	cacatgaatc	agccaggcaa	gccaataccc	attgcaaagg	480
anggtgtgat	gggngggcac	caagtacctg	tccgggcggc	cctttaaaag	gggaaattcc	540
ccacttgggg	gcgggnttta	gggnac				566

<210> 171

<211> 562

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(562)

<223> n = A,T,C or G

<400> 171

ggtacctttg	caagcaggtg	gccagtaaag	ctgaggagaa	tctgctcatg	gtgctgggga	60
cagacatgag	tgatcggaga	gctgcagtca	tctttgcaga	tacacttact	cttctgtttg	120
aagggattgc	ccgcattgtg	gagacccacc	agccaatagt	ggagacctat	tatgggcccag	180
ggagactcta	taccctgatc	aaatatctgc	aggtggaatg	tgacagacag	gtggagaagg	240
tggtagacaa	gttcatcaag	caaagggaact	accaccagca	gttccggcat	gttcagaaca	300
acctgatgag	aaattctaca	acagaaaaaa	tccaaccaag	agaactggac	cccatcctga	360
ctgaggtcac	cctgatgaat	gcccgcagtg	agctatactt	acgcttcctc	aagaagagga	420
ttagctctga	ttttgaagggt	gggagaattc	atggcccttag	angaagtaaa	gccangagcc	480
cccaaattgc	ttggacnaac	ttctcaataa	ctggcttttg	agctgtacct	gtccccggng	540
ggcnctttta	aangnnnaat	tn				562

<210> 172

<211> 617

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(617)

<223> n = A,T,C or G

<400> 172

acggtagaac	tgctattatt	catcctatgt	gggtaattga	ggagtatgct	aagattttgc	60
gtagctgggt	ttggtttaat	ccacctcaac	tgccctgctat	gatggataag	attgagagag	120
tgaggagaag	gcttacgttt	agtgaggag	agatttggtg	tatgattgag	atgggggcta	180
gtttttgtca	tgtgagaaga	agcaggccgg	atgtcagagg	ggtgccttgg	gtaacctctg	240
ggactcagaa	gtgaaagggg	gctattccta	gttttattgc	tatagccatt	atgattatta	300
atgatgagta	ttgattggta	gtattggtta	tggttcattg	tccggagagt	atattgttga	360
agaggatagc	tattagaagg	attatggatg	ccgttgcttg	cgtgaggaaa	tcttgatggc	420
agcttctgtt	ggaacgangg	tttatTTTTT	gggtanaact	gggattaaaa	gctacatggg	480
taattctaag	gccactcagg	ntaaaaaanc	nngcgagctt	aaccctttga	aaaangnggc	540

ccccntggcc cgaaacnccc ttaaggggca attccancaa cntggngggc gttattangg 600
gatccgactt gggcccn 617

<210> 173
<211> 232
<212> DNA
<213> Homo sapiens

<400> 173
ggtaccagat gctagctggg cctgggtgggt atccacccag acgagatgat cgtggaggga 60
gacagggata tcccagagaa ggaaggaaat accctttgcc accaccctca ggaagatata 120
attggaatta agcttttgta aagctttccc aaatcctttc atcattctac agttttatgc 180
tatttggtgga aagatttctt tctcaagtag tagtttttaa taaaactaca gt 232

<210> 174
<211> 987
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(987)
<223> n = A,T,C or G

<400> 174
gcggccgang tacttcacca tcaactgactc catggacttg atcagccgcc gctggatgta 60
tccagtctca gcagtnttga cagccgtgtc aatgagcccc tcacgacccc ccatggngtg 120
gaaaaagaac tcagtgggtg tgaggccggc taggtaggag ttctccacaa agccacggct 180
ctcaggcccc tagtcatcct tgatgaagtg aggcactagt ccggtgcttg aagccaaatg 240
gaatccgctt gccctcgacg ttctgctgtc caacgacagc gatgacctgg gagatgttaa 300
tcttgaagcc tttagctccg gacacgacca tanacttgaa gttgttgat tcanacaggg 360
attnntgagc agaggagcca gtcttgctc gggcatcggt aagaatgcgg ttcacctgat 420
tctcaaagct ctgccgcaga gtgttccctg nggngggctc cagctcattg ttgngngcct 480
tctcgatgac ctctattacg tctgcttgn ncttcttaat agtgttctga atgtcctggg 540
aagncttaga atcagcantg gngtcccaan gccatactt tgacctatag acagggaaaa 600
acatcagcaa accccttttg acctetaata nacatggaat ggaattataa cccagagta 660
taancanggg caccanattc aaggaggaaa gaaanggatn gtangacagn aagaagttnn 720
agaantcnnn nagacggctt ggacctgnc cggcnggccg ttcaaanggc caattccann 780
ccactggtgg ccggnacttn tggaaccgnc ttgganccaa acntggctaa aaanggcct 840
agcnggttcc cgggcttaaa tggnatnogn tcccaattcc ncccaaatta cggcccgnaa 900
nccttaanncn aaaancccg ggggcctnan gaanggnnta acnccntta aatgggttng 960
cncaaggcc cnntttcaan tngggan 987

<210> 175
<211> 574
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(574)
<223> n = A,T,C or G

```

<400> 175
actccccgcc cctctgaaa gcatgtcaca tcatgtaaat ttgcttctaa catctgcttc      60
aaactgtctc tggactccaa atttggatgg gtcagcctct gcagaaagtt tgtgttgaga      120
tgctggaaga acagcagagc ctctgcacc ctacagcaagg gaccagctcc caaaggaaaag      180
gtccttgtgt gacatttgga gaatcttcct tcatccagac aactctactc gaagcaagac      240
gaaagcagga tgtggcagtt gcagtggaaa aggaaaggaa agatgggcag actctgcttt      300
ctggaaattt cttcacaag tagagctcat gaactctgtg ctgtcttctg gtaacatate      360
atcagtgttt gtattcatgg tgtggcacat ggatccatgg cattgggtaa atctggtggt      420
ttttacacat ggtcagaatg tgttcaaata catctcatga tggagacagt nccaaggtta      480
aatggttggt ttcagcattt taaaaaagac tcccttaaca tttatctcag aatcatgagc      540
ccttcttcta gttgacaatg gcaatggctc cccn                                     574

```

<210> 176

<211> 570

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(570)

<223> n = A,T,C or G

```

<400> 176
ggtacagata ttcattcagg agctccagga aactggattt gctctctaga gggcagctca      60
aagggcccat tcactcacia tccacccaac ggcattcctg gcctccggtc acagcctcag      120
ccacggaagt cctgcagggt ttgtcagtct gtgggggtga gtgccctaac accatgaact      180
gcccactgct cccagaaaaga aagaagaact tggaaataga gactccccag gtctcctgac      240
cctcttcctt cttggaatga gaccaggtta gtgctcaggg gatttctggg ttgggccatg      300
gacaagcaac cagtagtggg ctcacttttag ggacgcaaac cacaaagccc acctcaggaa      360
gccaaatttc aactcttgcc ctggggcaaa cttctagcaa ccaggccaga ggcaaagtgc      420
agacaggata agggatgaca tnccatcaat caaagttna aatggggaagg gaccancca      480
gtttgnaata aaggcnttaa actnggnacc tggcccgggc ggccgtttaa aggcgaattc      540
acacactggn gggccgtcta agggatccca                                     570

```

<210> 177

<211> 621

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(621)

<223> n = A,T,C or G

```

<400> 177
acagaagagg atgaagaaga ggatgaagag gaagaagaag agtcttttat gacatcaaga      60
gaaatgatcc cagaaagaaa aaatcaagaa aaagaatctg atgatgcctt aactgtgaat      120
gaagagactt ctgaggaaaa taatcaaatg gaggaatctg atgtgtctca agctgagaaa      180
gatttgctac attctgaagg tagtgaaaac gaaggccctg taagtagtag ttcttctgac      240
tgccgtgaaa cagaagaatt agtaggatcc aattccagta aaactggaga gattctttca      300
gaatcatcca tggaaaatga tgacgaagcc acagaagtca ccgatgaacc aatgggaaca      360
agactaacta tttagaaaca ttttaagatgc cagtatttta catacaggtt ctggnnttta      420
acactggatt aaaacttttt gngntaaata aaaaatggga ccctttagggn ttttaccag      480

```

```

gaagaaagcc aaggtttggt aaaaattaaa aggtanccct tggggccggg gaanccacgg 540
ctttaagggg ccgaaaattt ccaagnacaa ccttggccng ggcccggnta ncttaaaggg 600
ggaatnccca agaccttnng g                                     621

```

```

<210> 178
<211> 403
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(403)
<223> n = A,T,C or G

```

```

<400> 178
actccttccct gagccgctgc aataagcttt ttgctgtgga atatgacgac agctagatac 60
tgtccctgcc acaagagctt ctggttataa atagacaaag actctaattt ctaattgacc 120
tcttttcttt ttcaggttta tacataaatt ttcgtcacct ttataaacag cgcagacggc 180
gctatggaca aaaaangaaa aagatccact aaaaagaaa atttagatgg cttcttgcca 240
gtttgagcct aatctgattc ttacagtttt accttcttga accaatgtaa aagttttttt 300
aatgttaa atgattaaattc tcagtggaggc tatcttccct ttccccagta acattcctga 360
atttactgnt accttattgt aagtacctcg gtcgtgacca cgc 403

```

```

<210> 179
<211> 650
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(650)
<223> n = A,T,C or G

```

```

<400> 179
cgaggtacaa gctttttttt tttttttttt tttttttttg agccaaccag ctaaaggatc 60
actgcagcta aatacagata gagaagcaac aaagccaggc aaatacccat cagagacagt 120
gacaagagca gctgggggca cgggggaggc agaaggaaga gaaagaaggg gaggagcctc 180
cagagtccca gcccacaccc cctctgccat tggctaccct tgctccccac aaatccctgg 240
ggttgaagtg aggaggacta caggctgggg tgaaaatata caaggacagc ccaacaaaat 300
acaacaagga ctagcatcag tctccccctt actccacccc caagaaaaat acccttattg 360
ngactagtat ttatgaaaat ctgtaagaga ctattctatg tagtggctct aatcccatat 420
cacagcaact gcctgngttg ggaacttttc aaatcagtga tttgcgggaa ccaaccggat 480
tttcagcttn ttacggngca tgcagcttta ccaaaacttg ggtaaaagncc agncacattt 540
accttctgct tacatntaaa aagggtgang aaagagggaa gggaaaaagg ggttaagggc 600
taggtaaact tactggtnag cagctanatt caccatgggc ntttttttggg 650

```

```

<210> 180
<211> 639
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature

```

<222> (1)...(639)

<223> n = A,T,C or G

<400> 180

acatacggct	gtgcgataca	ccagcattga	attggttggga	gagatgagt	aagtcgttga	60
tcgaaatcct	cagttccttg	accctgtgtt	gggctatttg	atgaaaggcc	tgtgtgaaaa	120
gcccctggct	tctgctgcag	ccaaagccat	tcataacatt	tgctctgtct	gccgagatca	180
catggctcag	cactttaatg	gactcctgga	gattgcccgc	tccctcgatt	ccttcctgtt	240
gtctccagaa	gctgctgtgg	gcttgctaaa	agggacagca	cttgtccctag	cccgattacc	300
tttgataag	attaccgaat	gtcttagtga	actatgttct	gttcagggtta	tggcattgaa	360
aaagctgttg	tctcaagagc	ccagcaatgg	catatcctca	gatccacagt	gttcttagat	420
cgccttgag	tgatatttag	gcataccaat	cccattgtgg	aaaatggaca	gactcatccg	480
tgtcagaaag	tcatacagga	aatatggnc	gtttatccga	gactctaaat	aagcaccgag	540
ctgataatcg	gattgtagag	cgtgttcaag	gtgcctgcgc	tttgtggtcc	tgngaagcna	600
angactgaac	actgtgcagc	nctagtcac	aatgnga			639

<210> 181

<211> 644

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(644)

<223> n = A,T,C or G

<400> 181

acaagagagg	ttccaggagg	gggtgatagg	cagaattttg	gtcccatca	ccttcctgc	60
ccagtgttat	gcctatgaat	gtgttacatt	atgtggtaaa	agggactttg	cagatgtaac	120
taaaatttct	aaaatagaga	tattatcctg	gattacctgg	gggaacccag	tgtaattaca	180
tgaaccctta	aaaatggaag	aggatgcagg	agtcagattc	aaaggaaggc	ccaagggtgct	240
attgctgact	tgaagataga	ggggccatgt	ggaaatcaag	agaaggaaagt	gaatccttcc	300
agtgagcttg	gaagagagca	ccttgaggca	cagatgagaa	gcttggcctt	acctgatgcc	360
ttgattttag	cctgggtgaga	ccccgagcat	ataaatttgc	tgtgctatgc	cacacttctc	420
acctacagaa	acttagttta	aagccactaa	gtttgtggta	atttgggtggc	tttaggcccc	480
ttgagggtag	agattttatgg	cttgtgttac	aagtagaaga	gcagtggaaa	agttgggctt	540
tggttaattct	ttcaagggtg	aattgtagtt	ctgggagtcc	tatctanctt	gggntcagaa	600
cnttgttggg	cangncctgc	tggggacttc	ctggtttaac	cttg		644

<210> 182

<211> 609

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(609)

<223> n = A,T,C or G

<400> 182

ggtagagaaa	agtcagatca	aattggatat	gtagacattg	ctaaggattt	tgaactctaa	60
gggcattgat	aagctactca	agggttttta	gtaggggagt	gacttgatta	gacttattta	120
tttgttgaaa	agtctgtgtg	gctgggtgtg	ggaaaataga	atggattgaa	aaggaactca	180

agtggagcat	caagactcag	ttaaggagtt	aatctaggtt	ggaaataatt	gtagcttagg	240
cctggatgct	ggcaataggg	aaggggatgg	attcatgaaa	gaatgggata	cttgagaaga	300
aatatttctg	tgctggagaa	gtagattggg	gaagttcatg	gcataaacat	tataatggat	360
gctatgggca	tagataacat	aaacatgtag	agaaagtaaa	ggtgacctag	ggcagaagcc	420
ttaggaaccc	aaaattttaag	agtagactga	agagaaccgc	tgtagaagtg	ggaggaaanc	480
tgctcgtgtg	ggtagacaag	gagaccnttc	aaaaggatca	tcattacagt	naaaagctgg	540
caactcggcg	tcttggtgaa	agtnccctgcc	cgcgcccgctc	naggnatca	gccatgcgcc	600
gtcttaggn						609

<210> 183

<211> 401

<212> DNA

<213> Homo sapiens

<400> 183

ggtactcatc	ctttgccagc	aaagatgcac	aactataact	atgggtggtaa	cttacaggaa	60
aatccgagtg	gccccagcct	catgcatgga	cagacctgga	cttctcctgc	ccaaggacct	120
ggatattcac	aaggatacac	gggacatatt	agcacatcaa	ctggcagagg	cagaggcaga	180
gggttaccat	actgagtatc	tgtttttccct	caggcacatc	atTTTTtatct	ggaaagactt	240
ttctagctgc	aattttaaggc	agcaatccaa	gagacttgaa	taataataat	tcaacaacag	300
ctttatTTTT	atgtggagaa	gggtcttgca	tacaatagtt	taaaaaagac	aaaaaaaaacc	360
tttgcttaaa	ttcatgctgt	tctaaaaact	agatcgattg	t		401

<210> 184

<211> 423

<212> DNA

<213> Homo sapiens

<400> 184

ggcggcggat	ggaggctcagc	ggtggtgctc	gctgcgggttt	ggaatcactt	gctaggagtc	60
ttgtctctct	gccaccaggg	acatcatggc	agctcacctg	gtaaagcgat	gcacgtgcct	120
cctgagagaa	gctgctcgtc	aggccctgc	catggctcca	gttgcccgac	tgagacttgc	180
ctgggtagcc	cataagactc	tgacttcctc	agccacctca	ccatttccc	acctcccagg	240
ttccttgatg	gagccggtgg	agaaggaacg	agcatctact	ccctacatag	agaagcaggt	300
ggaccacctc	atcaagaagg	ccacaaggcc	agaggagctc	ctggagctac	ttggtggcag	360
tcacgacttg	gacagcaatc	aagcagcaat	ggtactaccg	gcgctacaaa	gtgaagtcgt	420
acc						423

<210> 185

<211> 669

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(669)

<223> n = A,T,C or G

<400> 185

accgcgagct	tgtccccatc	ctcatattca	tccaggcaaa	tggcacagac	atcatactgg	60
tctcccttct	gatagtcatg	tgtaggaatc	tgtttcagtt	gctctttggt	aagtcgattc	120
cgctggagcc	gtttccggtg	ctggatacaa	cgagctatca	ttactgctcc	catggccaaa	180
accagcagtc	ccacaatccc	tgtgaaaggg	atgaggtaat	agcccaaggg	gaaggtattg	240

tctggaacca	gaagcaccgc	agcccccttc	tcgtagacaa	agagggcacc	caggtacaaa	300
gagagaaatt	ttaaagctgg	gtgtcagggg	agacatcata	tgtcggcagg	ttctgtgatg	360
ccccctaagc	ccgtaaaacc	agcaagtgtt	tattagtgat	ttccaaaagg	gggaagggag	420
tgtatgaaat	agggtggtgg	gtcacaagag	atcacatgct	tnacaaggta	ataaaaaatat	480
cacaaggcaa	aatggaggca	gggttgagaa	cacnggacca	cattgaccaa	gggcgaaatt	540
aaaaattgtg	aagtgaagtt	cnggccacgc	antgncantg	atacatctta	tcaggagaca	600
ggnttttgaga	gcngaccanc	agtctggnc	aaaattaata	agtgggaaat	ttcttggcct	660
aataagccg						669

<210> 186
 <211> 638
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(638)
 <223> n = A,T,C or G

<400> 186						
ggtacatgtg	cgttggcatt	atggatcgat	ttttacaggt	tcagccagtt	tcccgggaaga	60
agcttcaatt	agttgggatt	actgctctgc	tcttggcttc	caagtatgag	gagatgtttt	120
ctccaaatat	tgaagacttt	gtttacatca	cagacaatgc	ttataccagt	tcccaaatcc	180
gagaaatgga	aactctaatt	ttgaaagaat	tgaaatttga	gttgggtcga	cccttgccac	240
tacacttctt	aaggcgagca	tcaaaagccc	ggggagggtg	atgttgaaca	gcacgcttta	300
gccaagtatt	tgatggagct	gactctcatc	gactatgata	tgggtgcatt	atcatccttc	360
taaggtagca	gcagctgctt	cctgctgnct	canaaggctc	aggacaagga	aaatggaact	420
taaagcagca	gtattacaca	ggatncncag	agaatgaagt	attggaagca	tgacgacat	480
ggccaaaaat	gtggtgaaag	aaatgaaaac	ttacctaat	catcgccntc	aagaataagt	540
ntgcagcngc	aactcctgaa	natcacttga	cccttagntg	accttaaagc	ccgnaaanac	600
cttgccctccc	ccggaaggaa	ggcctaggtt	cccgggcc			638

<210> 187
 <211> 628
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(628)
 <223> n = A,T,C or G

<400> 187						
ggtacataga	aattcattga	ggtatataga	tactcatctg	tctaggcagt	tccaattttt	60
ctgaagaatg	ttttacagca	aaattttcta	ttttctttta	ttaaatagtg	acacgtcaaa	120
caatgtcaca	tccaaaacac	tagtttcatc	aattttctagc	agtaataata	gacttgctgt	180
aagtattgtt	ttctgatgcc	atacccttgt	catacatatt	attaaatgac	caatattatg	240
tatgaagtag	acaaaaaaat	ttactcaaac	ttcattcaaa	tcctaattgt	gataattttt	300
gttttatatt	taattataaa	ccaaaataca	tttgcathtt	taagctaatt	tgtctcaaaa	360
ttttgcttta	tatttttggg	tcagggttaa	gtcctgggga	tcccctgaat	gttattgccc	420
tcttggattg	gtttttactt	ctgagctata	ccgtcaaaaag	acacataagc	ttcaaaaagtc	480
aagacaaaacc	tcatttgcca	taaaaatcaa	gatatagatg	tctgggtccga	aactncttga	540
aaaacatttt	aagcatcaat	atgactgggt	ccatgaactt	aagtacttct	taatgagtat	600

tctttctgaa gctgaaagaa gattgttt

628

<210> 188
 <211> 654
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(654)
 <223> n = A,T,C or G

<400> 188
 cgaggtacaa ggtggactgt gcatgcctca aagaaaaccc agagtgcctt gttctaaaac 60
 gtagttctga atccatggaa aatatcaata gtggttatga gaccagacgg aaaaaagaat 120
 aaaaagacaa agatatttca aaagaaaaag atacacaaaa tcagaatatt actttggatt 180
 gtgaaggaac gaccaacaaa atgaagagcc cagaaactaa acaaagaaag ctttctccac 240
 tgagactatc agtatcaaat aatcaggaac cagattttat tgatgatata gaagaaaaaa 300
 ctccattatg taatgaagta gaaatggaat cagaggagca gattgcagaa aggaaaagga 360
 agatgacaag agaagaaaga aaaatggaag caatttttgc aggcttttgc cagacttgaa 420
 aagagagaga anagaagaga acaagctttg gaaaggatca gcacagccna aactgaagtt 480
 aaaactgaat gtaaagatcc cagattgcag tgatgctgag ttatttanga acnagccata 540
 gaagaaaatg ctagcagcca acccctgcc aagtaatagac taancgggga aaagttttct 600
 cgagtaggac tacttggcag caccgtcgga gaccngactg tcacatggtt anan 654

<210> 189
 <211> 650
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(650)
 <223> n = A,T,C or G

<400> 189
 ggtactttta gataattgta ttgatctttt ttcagattcc ttgtattttt aataaagtaa 60
 tcttaataaa aactcagata gggttaagtgt tagaaatttt aaacagctta cattgttagc 120
 gtaaagttat cttttctttt ttccaatca gagttcttga ccctttgggt attgagttta 180
 aaacttcaat tgaaattcaa tagtatttat tttttaaaaa aatcactaaa ctgtgcctaa 240
 agaacataac tgccatatta atgttttggt ttatatcctc tatagtaata gaaaaacatt 300
 taatacttgt aatgctgatg tggttaatttg ataccagttg agtagaatgt gatcaatcca 360
 gtttacaatc tatcatgagt attattaact aaaatctatg tgcttttcaa taggaatcat 420
 tcttctcttg ctgnaacact tgccttaact tttangaaag nggtcatttt taaactgcac 480
 tggnaagggg gaaagttang actcttggat ttggngaccg naatctgaag ccgaatantt 540
 aaagggagaa aaagaaacca ggtctttttg ccaaaggctg ggaaccntat tcanccttgg 600
 gnaagtaatt ggatatncca aggggtgggan gacaagtctg aaaatcacng 650

<210> 190
 <211> 699
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(699)
 <223> n = A,T,C or G

<400> 190
 accagctcta atctgtggcg tccagttttc tttctttttt tttttttctt ttttaatgtc 60
 aaagtgaatg tctgaagttt tgtctttttt tctttgtect ttcccatctg cttcattctg 120
 tggggataaa atacttgtgt ttaatcagaa caactggaac gcattgagga agggatggac 180
 caaatcaata aggacatgaa agaagcagaa aagaatttga cggacctagg aaaattctgt 240
 gggctttgtg tgtgtccctg taacaagtag gtgctgcctg cctgcctgaa gctttgattt 300
 cccaaggccc atctccaagc cttgacaaaag ctcatctctg ccaagctcat aggcaggatg 360
 aagcatgtgg catgcagaaa cagatcaata cccgcttcaa tgcattcatc tcatagcata 420
 gaagatatta accaggaagt tactgggtga tgcanttaaa aaatcaaggc catacctaca 480
 ggtggaaaagc nttcacntgt cagcnaacnt ttaattggat gaaccggttt caaccatttt 540
 nccaaaaaag gtgtacctgg ggnnaagggg gtggggcccag tggcccccac gtggggacctn 600
 ttgaaaatga aaaggggtgt tcntttccac tgggcccctt gggccttggg aaccaagncc 660
 tcttcgcgcg gggcaaggca antanccttg gcccggnan 699

<210> 191
 <211> 378
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(378)
 <223> n = A,T,C or G

<400> 191
 acaaagattc cagacagact ttgttttttg gcttataaca atgtgtagat actacacaaa 60
 gaatgaggat gtaattttca tttaacaagca aaatgtgacc aaaatccctt ttcttcttaa 120
 aattgaaaaa tgaaattctt gagaatacta attagtgcag gccaaatctt agactatttt 180
 aaattagcca tgggttaaaca taggtgagtt aaacattgtg cctttccaaa attaaggttt 240
 gcagttagaa acataaacat ttgataaaaac ttctcaaaaat taattatgag tggcttatct 300
 atgtcctttg gattccagac acacactana aaaagtaaac gttaaagagg tgatattttg 360
 gaaagcatcc ctagtacc 378

<210> 192
 <211> 624
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 192
 acagtaaaaa gtaaaacttc ctccatccca ggcctgccag catccctgat gccgactttc 60
 tgggtgtggc ctaggggccc tcagtgtaat gtaggggttg tgagcacaga ctttggtgcc 120
 agtttgctag gttcgaatcc tgactccctc tttgtagctc tgtgcttcaa ttgaaatact 180
 gtgcctcagt ttctccttta taaaggcagg gatcatgaga gtgcctgtcc cttgtgagca 240

ctatgaaagt	gtagctgtt	ctttaccaga	ataaatgcat	ttctatatct	tcccatatgc	300
atctgtgtaa	tttttaaagt	atctcaaaca	caaagtttga	aacagaaaat	tgtgtaacat	360
taactatgaa	cttaccaccc	agaatttaca	aatgctgaca	ttttgcaata	tttatttcgg	420
atctattttt	aaggggggga	accctgcagt	tactgcttaa	tcctctttcc	accccaacct	480
tttattttta	cacaaggagc	catagtggtc	atacttaagc	tatttttttc	agtaactnaa	540
tatatttttg	aagantctcc	tcctaggnca	tanaagcttt	gncccttttt	tttacagtgg	600
taaacccttn	ggactaaagg	gcng				624

<210> 193
 <211> 348
 <212> DNA
 <213> Homo sapiens

<400> 193						
actgctactt	ctataaacgg	acagccgtaa	gactaggcga	tcctcacttc	taccaggact	60
ctttgtgggt	gcgcaaggag	ttcatgcaag	ttcgaagggt	acctcttggt	acactgatgg	120
atacttttcc	ttcctgatag	aagccacatt	tgctgctttg	cagggagagt	tggccctatg	180
catgggcaaa	cagctggact	ttccaaggaa	ggttcagact	agctgtgttc	agcattcaag	240
aaggaagatc	ctccctcttg	cacaattaga	gtgtcccat	cgtctccag	tgcggcatcc	300
cttcttgcc	ttctacctct	gttccacccc	cttctcttcc	tttccacc		348

<210> 194
 <211> 627
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(627)
 <223> n = A,T,C or G

<400> 194						
ggtaccttct	cagccagctg	cagcaaagcc	aaatggcaga	gaagcagtta	gaggaatcag	60
tcagtgaata	ggaacagcag	ctgctgagca	cactgaagtg	tcaggatgaa	gaacttgaga	120
aaatgcgaga	agtgtgtgag	caaaatcagc	agcttctccg	agagaatgaa	atcatcaagc	180
agaaactgac	cctcctccag	gtagccagca	gacagaaaca	tcttcctaag	gatacccttc	240
tatctccaga	ctcttctttt	gaatatgtcc	cacctaaagc	aaaaccttct	cgtgttaaag	300
aaaagttcct	ggagcaaagc	atggacatcg	aggatctaaa	atattgttca	gagcattctg	360
tgaatgagca	tgaggatggt	gatgggtgat	atgatgaggg	ggatgacgag	gaatggaagc	420
caacaaaatt	agttaagggt	tccaggaaga	acatccaagg	gtgttcctgc	aagggctggt	480
gtggaaacaa	gcatgtgggt	gcaggaagcc	aaaagtcaga	ctgtgggtgt	ggctgggtgt	540
tgtgancccc	ccaagtgtng	gacccgccgc	caaggcaagg	aaaccttggg	ccctttttaa	600
cgggcccnng	aattcccaag	gttcntt				627

<210> 195
 <211> 405
 <212> DNA
 <213> Homo sapiens

<400> 195						
ggtacaattc	cacttatcca	tactattcct	ttataaaagg	cagatttcag	gtaagcttct	60
aaatgcatgc	gtaatgtaga	ggctaataatt	ttctggcagt	ccttggttcc	tgaaatttga	120
acttcatatg	tgtttttaaac	ttttgtcaaa	atagtcatga	aagatatgtt	atctttgcat	180

aatgaggttaa	tatatcaggg	gcggggcactc	ataagacagt	ataaatccac	ttgtctaaac	240
ttgcatgagg	ctgtgtgcat	tgtaaaatgc	cataaagagt	tttgggtcag	tgaatatattt	300
gctgaaggaa	taacacttac	atttaactga	gcacttttct	gtaataaata	ccaaagtagg	360
tttttgtagc	tgtaaaactgt	gtacctgccc	gggccggccc	ctcga		405

<210> 196
 <211> 658
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(658)
 <223> n = A,T,C or G

<400> 196						
ggtgaaagga	gttaaaaacgc	ccagtgggtca	ttaagtga	catcttttat	caacctgcaa	60
aagctgcagc	gttctctgcc	aggtcaaagt	ggcatgttta	gaaaataaga	gaagatggct	120
gagtatagct	aatgaataaa	tgggtgtttc	tttagaaaat	taaacacaca	cagagtgtaa	180
gaggagagga	tacggccctc	cctgaaggat	aaagtccacc	tggacgggtg	cctgccctcg	240
cttctcacat	taactgcccc	ggaatgtcat	gctgattggg	ttccggaagg	gtgtttggca	300
aggggacagt	tatggagcta	cgtgtagaag	gagagaaatt	tgtgtgtggc	ttttgtaaat	360
tttgaccgat	tgacgaatt	aaataagttg	attactngt	tgatttaaat	acttatgaaa	420
gctttcaaga	cnaaaaataa	acctttcacg	ttacccccaa	annaaaanan	tnnnnttta	480
nataaaaaaa	acttggancg	gnatngnggt	tcttggaata	agtttggatg	ccatttgcna	540
aattcttcnt	tttnggttn	aaaattgaac	ncaggntatn	ggggggancc	nttttggaaa	600
aancccataa	gcttgggttn	cttgnnnaaa	ctttgnaant	tngccccngg	nttaattn	658

<210> 197
 <211> 615
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(615)
 <223> n = A,T,C or G

<400> 197						
ggtacagaga	aagaaataaa	agatactgag	aaagaggtgg	atgacctaac	agcagagctg	60
aaaagtcttg	aggacaaaagc	agcagaggtc	gtaaagaata	caaatgctgc	agaggaatcc	120
ttaccagaga	tccagaaaaga	acatcgcaat	ctgcttcaag	aattaaaagt	tattcaagaa	180
aatgaacatg	ctcttcaaaa	agatgcactt	agtattaagt	tgaaacttga	acaaatagat	240
ggtcacattg	ctgaacataa	ttctaaaata	aaatattggc	acaaagagat	ttcaaaaata	300
tcactgcac	ctatagaaga	taatcctatt	gaagagattt	cggttctaag	cccagaggat	360
cttgaagcga	tcaagaatcc	agattctata	caaatacaat	gcacttttgg	aagccnggtg	420
tcatgaaatg	aaacccaacc	ttcgggccat	cgcagagtnt	aaaaaggaag	gaagaattgn	480
atttgcaccg	gtagcagaat	tggccaaaat	acttntgaag	ggaccggttt	agaccaaaaa	540
anaannntan	aaaaaaaaann	nttnacttgc	ccgngggccc	ttnaangggg	attcncccat	600
gggggccttt	tangg					615

<210> 198
 <211> 557

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(557)
<223> n = A,T,C or G

<400> 198

gggacctgca	gttggtattg	atcttggcac	cacctactct	tgtgtgggtg	ttttccagca	60
cggaaaagtc	gagataattg	ccaatgatca	gggaaaccga	accactccaa	gctatgtcgc	120
ctttacggac	actgaacggg	tgatcgggtg	tgccgcaaag	aatcaagttg	caatgaaccc	180
caccaacaca	gtttttgatg	ccaaacgtct	gattggacgc	agatttgatg	atgctgttgt	240
ccagtctgat	atgaaacatt	ggccctttat	ggtggtgaat	gatgctggca	ggcccaaggt	300
ccaagtagaa	tacaagggag	agacccaaaag	cttctatcca	gaggaggtgt	cttctatggt	360
tctgacaaag	atgaaggaaa	ttgcagaagc	ctaccttggg	aagactgtta	ccaatgctgt	420
ggtcacagtg	ccagcttact	ttaatgactc	taacgtcagg	ctacccaaaga	tgctggaact	480
attgctggct	caatgtacct	nggccgcgaa	cacgctaagg	gcgaattnca	cacacttggn	540
ggncgtctan	tggtatnc					557

<210> 199
<211> 498
<212> DNA
<213> Homo sapiens

<400> 199

acaatgatgc	ttctcacagc	ttcaaagaca	tgtctgaggc	atcctaactg	cgaatcagcc	60
cataaaaaaca	aagaaggagt	atctgaccgt	atgaaagtgg	cattggataa	ggtcattgaa	120
attgtgactg	actgtaaacc	gaatggagag	actgacattt	catctatcag	tatttttact	180
ggaattaagg	aattcaagat	gaatattgaa	gctcttcggg	agaatcctta	ttttcagtcc	240
aaagagaacc	tttctgtgac	attggaagtc	atcttggagc	gtatggagga	ctttactgat	300
tctgcctaca	ccagccatga	gcacagagaa	cgcaccttgg	aactgtcaac	tcaggcgaga	360
atggaactgc	agcagttaat	ttctgtgtgg	attcaagctc	aaagcaagaa	aacaaaaagc	420
atcgctgaag	aactggaact	cagtattttg	aaaatcagtc	acagtcttaa	tgaacttaag	480
aaagaacttc	atagtacc					498

<210> 200
<211> 615
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(615)
<223> n = A,T,C or G

<400> 200

ggtaccctct	cttccagcac	ccaggccagt	attgagatcg	attctctcta	tgaaggaatc	60
gacttctata	cctccattac	ccgtgcccga	tttgaagaac	tgaatgctga	cctgttcctg	120
ggcaccctgg	acccagtaga	gaaagccctt	cgagatgcca	aactagacaa	gtcacagatt	180
catgatattg	tcctggttgg	tggttctact	cgtatcccca	agattcagaa	gcttctccaa	240
gacttcttca	atggaaaaga	actgaataag	agcatcaacc	ctgatgaagc	tggtgcttat	300
ggtgcagctg	tccaggcagc	catcttgtct	ggagacaagt	ctgagaatgt	tcaagaattt	360

gctgctcttt	gggatgtcac	tectcttccc	ttggtattga	aactgctggt	ggagtcatga	420
ctgncctcat	caagccgtaa	taccaccatt	cctaccaagc	agaccacaga	ccttcactac	480
ctatcttgac	aaccagtctg	gtggncttat	tcanggttat	gaagcgaccn	gccttgccaa	540
ggataccacc	tgnttggcaa	gttttaactn	caggcttctc	tctggacccc	aggngttccc	600
aaattgaagt	ccttt					615

<210> 201
 <211> 256
 <212> DNA
 <213> Homo sapiens

<400> 201						
actgcacttt	ataaaagcat	ggataatatt	aaaggatcac	aaaaggcagc	attagcattc	60
tctatccagg	tattattaaa	tctttttatc	ccatgcccc	ctcaaata	ggagaattat	120
tatctgataa	gcctgaaacg	acttttttta	ataccataac	ctaaaaagac	acttcttaca	180
ggtgtatgca	actttggtca	gcagaaacac	aatacgagcc	tctggcctag	ctaaggcact	240
ctattctgaa	agtacc					256

<210> 202
 <211> 584
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(584)
 <223> n = A,T,C or G

<400> 202						
actttttcaat	ctgatccatt	atcttctcga	ctctttctgg	aggcactttc	ccacgagttt	60
gcatecctttc	ggccacattg	tggtagaaat	cctgagcaca	ctctgactgt	tcttcaatgc	120
ttagatccct	tttgtaatgc	attccttcca	aaaacagctt	ggtctgttta	tagatttctt	180
ggcctgtctt	tggaagggtc	ttgagaaatt	ctatgaactc	cttagacact	ctatccgttt	240
caatgctggt	ttgccggttt	atggaaggac	tgggagcttt	tgcttcctga	atttccttct	300
ttgatccgac	cctggaagaa	tgcactgaag	aaattcttca	ctgggggaac	cctgccgggtc	360
ttcttgntgg	gtttcttttc	ttcaaacttg	gaaaatgtna	aggattgggc	ccctgggtgg	420
gttnactggg	ngcaaaggct	ttttttcttc	cctgaggcnt	tccgcagtcc	annctctgaa	480
ttgntttgcc	tggttgngg	acctggccga	cacctanggg	aaatccacca	ctggggggcgc	540
tctaagganc	cncntggggc	aacttggggg	anntnggtan	nntt		584

<210> 203
 <211> 608
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(608)
 <223> n = A,T,C or G

<400> 203						
ggtactctta	tacacacctg	ttttctccaa	tggtctcctt	tagtatggct	ggtaattggt	60
ttggtgattg	ccacccccctc	gagatgcctt	gccataagtg	ctctgttggc	ctattttgaa	120

aacacagaat	tctcatttag	ttttctacaa	aacttttcttt	acaaacacaa	actattaaat	180
ctacaaatct	ttgcatgcta	aataaaaaagt	attaagatat	tttagcacc	attagatgct	240
actcataaat	catacatcct	agttcattta	taaccaccag	tctatgttag	tataatcatc	300
ctatgattgt	aacatgcctn	aaacacttaa	ctccgaacac	tttaatggaa	agcccatata	360
cacaatttca	gaacaggatt	gtatgttaac	aatgaatttt	aataccactg	ctttataaaa	420
tttaagttaaa	tattctttacc	actgnaatct	gcatatcctg	nccatatcat	aggtcccata	480
ggtataccca	ggataaacat	attcggcata	gcactatggg	ttgaacacct	ggcccgccg	540
gccggtncaa	aaggcgaatt	cancnactgg	nggccggtnc	natggatcca	ncntcgnacc	600
aactttgg						608

<210> 204

<211> 621

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(621)

<223> n = A,T,C or G

<400> 204

ggtacctgaa	gatcttgatt	tgctacacga	gcttttctcta	gggcattata	gtaagaaact	60
gcttctttct	ctcgcctcct	tttttctct	ttaagccggt	ctacctggcg	cattagggtta	120
gtaataagaa	gttctagctg	ttcttgtctg	tattgtagtt	cattcacttc	ttctttgagg	180
gtggtcttca	tactctccat	ttctgtcagc	tcaatttgaa	gagccagcat	ctctgaagac	240
atgcttttct	gcacacggtc	agacattacg	cgcagttcct	ctgatttaca	agagaggagt	300
tccttctgat	gatctacttg	gtgcttcagc	tgcttttcac	taagcctggc	ttcatcta	360
tcacttttca	gtttttctat	cttaagtttt	taagttcatt	cacttctctg	catggcttct	420
gcttagttgt	cttccnattt	cttcagggtg	attttttggt	ggtgggtta	agcttcacat	480
tcgcaagctc	aaacttttcta	acattcgact	cttgagttca	acttctcttt	tgaangggat	540
attttcntgg	tcataactct	tangcatngg	gcataattct	taccacatta	tccaatggat	600
ccggaattca	ntttgccctn	t				621

<210> 205

<211> 607

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(607)

<223> n = A,T,C or G

<400> 205

ggtaccacct	atcataggta	ttaccacaca	atttcatgca	tggtggcata	ttttaactgg	60
ccttggttcc	tatcttcaca	tccttttctg	tttgatata	agaacacttt	acctgagata	120
taggccaaaa	gtgaagtttc	tctttggaat	ctggccagtg	atcctgtttg	agcctctcag	180
gaagcattga	tgaatcattc	caccaagaaa	acaaacaagc	acctaccata	gacctggcag	240
aataaataag	gaaatcctta	aagatctaca	agttcaaata	tgtcatgacc	atcacagcag	300
aggagtgact	ttctgactaa	tgctgccacc	cacacagaga	ataaggagta	gggcctgctg	360
ggtgttttag	tcattgcttt	atcttatttg	ccccctctc	tttcacgctc	cagtttataa	420
aagaaacaga	gatgatgtgt	gtgtatgcct	caaaatgcag	aaacagggtg	gcttttctta	480
acanggttnac	agtttgtgct	gggtataaga	aaataaccct	ctttcttttn	gccaaagggtg	540

catgtgaatt atcccttctt aanattggtt aaataagcan tnncttanag cccccaaanc 600
nctntnn 607

<210> 206
<211> 572
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(572)
<223> n = A,T,C or G

<400> 206
acgcgtgacg tcactcacat agcaggaaga ctcacaacct ccatccagaa gcaccatttc 60
cccatccttg atgagttgat tatttttcac atagtgc aaa gtgtttgacc gattaccacc 120
agccaccaca ggtggatagg ctaaaatgtc tgcgccacga gcccggcatt caaattcaaa 180
cttagcataa agaaaggctt cttccacagg ggctttactg gtgaacatgg tttctatgaa 240
agcctgtgat gtcagcttcc cagcaatctg cattcgttca atttctgcag gagacttgat 300
cagccggagg cgctgtatca gctgctgaac accccgaacc ttgttcttgc tcttggcttt 360
ggcctcagtc aggggctgca tatagtcaga gtgaagctgt gcatgtgagg gccttatcca 420
ggtcatacca aaccatgttc gtctcagctt tcattttttg gtagaagatg ttgaaattct 480
tctagcgtat aggccttcgtc tactccagtt agagctattg gttccatcag tgccagantc 540
gnggaccatt ccaaaagggtt tnnactnngg ag 572

<210> 207
<211> 616
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(616)
<223> n = A,T,C or G

<400> 207
ggtacctgtc ccattcctaa aaggatttgt gggtaatgct ggcacttggt ggccaggaga 60
atcttctgac cccactctcc ctccctcttca gtcctgaaga cccaagaac ccagtttagga 120
tccccctggcc agaggtctct gtgactgcct ctggactcag cacgtgcagc agcttgggag 180
gatttgagcc agtctcaaaa acttttagcc ccagaatgag accagtgacc ccaagcagga 240
gggctgggat ctggagggaa gagaggggggt ccaaggggac cctgtggctg aggccatgga 300
gaaccagtgc cagggcccaa gagaccatt tttccagtta tcagaggtga ctgacatctt 360
ctgccactgc cttgagttca gaaatttaaa aaagcttgca gcaagaaaat gccagtgtgc 420
aactgggtga ctaaagacca aagaaaaaca gttaaaagg acagcttact tgctctctgt 480
ctcangttta acttctcacc tgaaatctct nataccctaa ttaacacaac caaagtctct 540
ttcatagata ggctactttt aagtttnact gcttctgtgg tgggctttgg gggctttgga 600
agtgggaatt ttttgg 616

<210> 208
<211> 614
<212> DNA
<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(614)
 <223> n = A,T,C or G

<400> 208

acacaacgtc	atgagggttat	tccaaccaca	gcgtcttcag	aactttcaga	gaaaccagct	60
gagtcgtgca	cttctaaaaa	gacaggaccc	cttagtgccc	agccctctgt	tgaaaaagag	120
aacttggaac	tagaaagtca	atcgaaaact	cagaaaaaag	ggaagatgtc	tcatgacaaa	180
aggaagaaat	caagaagtaa	agccataggc	tcagatactt	ctgacattgt	gcacatttgg	240
tgtccagaag	gaatgaaaac	cagtgacatc	aaggagttga	atattgtttt	gcctgaattt	300
gagaaaaccc	acctagagca	tcaacaaaga	atagaatcta	aagtttgtaa	ggcagccatc	360
gccacatttt	atgttaatgt	taaagaacaa	ttcatcaaaa	tgcttaaaga	aagccagatg	420
ttgacaaatc	tgaaaaggaa	gaatgctaag	atgatttcag	atatcgaaaa	gaaaaggcag	480
cgtatgattg	aagtccagga	tgaactgctt	cggntagagc	cacagctgaa	acaactncca	540
acaaaatatg	atgaacttaa	agagagaaaag	tctttccttt	ggaaagcaca	tatttcttat	600
ctaatttaaa	canc					614

<210> 209
 <211> 610
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(610)
 <223> n = A,T,C or G

<400> 209

acactgtttt	gatggaagag	gacattgtgg	acacgaagta	actggagatg	gccttcagaa	60
tcagctgagc	tgctgtctgc	tttggaacac	cgctcctgcc	gctgccgatg	gatggaaatg	120
caatggattt	cagcttctta	tcacagacca	gggccaagca	gtttttcact	gtcttttcca	180
gaagttcttc	acacttgtct	gcaccccaaa	ctggactatt	acagtggatc	acaaacttgg	240
caggcaggcc	atggcctgcg	ctgacagcag	ctccagctac	ttccaagggc	ccgttctttt	300
tccggagtcc	caggacagct	tccacaaact	ccttgccacc	tttcttctcc	agcgtgtttc	360
ctaggtcatc	tttaaggtca	atgtcagcat	tggtaggatt	gattatggcc	tncacctcaa	420
aagcccggct	aaatactgat	ttcactgnga	ataanggtca	acttttgggc	canggaaaag	480
ctctttgggtg	gaaaaggact	gtgaaaaccn	tnggcaagng	ggccctcggg	tgggcttttn	540
gggcttgntg	gcnttaaggg	antnancngn	gttttnggaa	ttccggncce	tttttggccc	600
cnggttttta						610

<210> 210
 <211> 589
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(589)
 <223> n = A,T,C or G

<400> 210

ggtaccagc	tctaattact	ggccgtagca	gcatattgct	taagaatttt	gtagaactta	60
-----------	------------	------------	------------	------------	------------	----

tttctcatca	gcagctgtcc	aaaggactga	taaatagaga	cagatcccag	tcctggatac	120
tttctgtaaa	tcctaatacg	agactcactt	ctcagcaatg	gaggctgaaa	gtcttagtga	180
gactcagtaa	attccttcag	gccttggcag	atggatccag	taggttgaga	gaaagtgaag	240
gacttcagga	acagaaaagaa	aatcccatg	ccactagcaa	ctccattttt	atcaactgga	300
aggaacatgc	caacgaccag	caacacatcc	aggtttatga	aaatgggggt	tcacagccaa	360
atgtcagttc	acagttcagg	ctacggtatc	tggttggagg	actgagtggg	gtggatgaag	420
gcctgncatc	tactgaaacc	tgaaggatt	attgngataa	taattccttg	ntnaatgaat	480
gctggttgaa	ctgtacctgg	ccggccggcc	cttaaaggnc	aattcngcca	cttggggggc	540
gactaaggga	ncncttggg	ccancntggg	gnaacanggc	aannttgn		589

<210> 211

<211> 590

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(590)

<223> n = A,T,C or G

<400> 211

acgaactgta	gcatcagcta	caactgccat	tgaattcgt	aggcaatcca	gtagttatga	60
tgattcctgg	aaaataacag	atgaacaaag	acagtattat	gtaaatcagt	ttaaaaccat	120
tcagcctgat	ctaaacggat	ttattccagg	atctgcagct	aaagagtttt	ttacaaaatc	180
aaaacttcct	attccttgaa	tttctcatat	ttgggaactc	tcagactttg	ataaagatgg	240
tgcattgaca	ctggatgagt	tttgtgctgc	ttttcatctg	gtggttgcta	ggaagaatgg	300
ctatgattta	ccagaaaaaac	ttcctgaaaag	cttaatgccc	aaactgattg	atttgggaag	360
ttcagcagat	gttgggggatc	agccagggtga	ggtaggttat	tcaggctctt	ctgctgaact	420
cctncaagca	agtcccatcg	atgccattac	ttaaccgcgac	ttggnctgac	tgaatcaaac	480
cntgaccatg	ggaaacatta	nngacgcttt	ttaagctaca	aantttggnc	ccattgggtt	540
taaatttggc	ccnattgnac	cggaaccgga	ntgggnattc	cgnnccattn		590

<210> 212

<211> 614

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(614)

<223> n = A,T,C or G

<400> 212

ggtacattcc	attactaaat	gccacataac	tgtttggata	acataagaag	agtgggtcat	60
tatatgatac	caattagaag	atattagggg	tggtggaggc	agtaatttct	gggataagaa	120
ctataattta	cagaataaac	agacatcatc	tgatctgggtg	aaacctgtgc	attcccacaa	180
ttaggctttt	tcacactttc	tctcttttaa	tgtgcaacac	cttccccatc	ccctctttac	240
ttgtagcaag	ttgattttgc	ttcttatatc	ccgagaaaag	aactaccacc	aaatctacca	300
gtcaactcat	ctatatttga	acttaaagat	ctttatgtta	gaatggaatc	tatccatggt	360
ccagcttagg	cgaagccctt	ctgaagatat	ccattccttc	cttctctcatc	aaattttcct	420
tcttgactag	gattaaaaaa	attcaaccag	taggcataat	ccgaaccttt	ggncatcataa	480
tgaaaaggat	agttaataag	gctcatcaat	tgggcccgnaa	ttttgntttg	ggtcaagngt	540
tggccaaaagc	nncnnaaang	gccccanttt	tgggtaaaan	tttttnaggg	gttaaaaancc	600

anggggntnc annn

614

<210> 213
 <211> 624
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 213

ggtacctctc	ttgtcatcaa	attttgccca	gttatttaat	gttggattcc	tcaaggctca	60
gtcagcacct	tttaagccac	tctaaactcc	cactaatgga	taagctcatt	tacttccaag	120
gcttcaatgg	tcacaatata	acactgctgg	ctctccaact	tatttttcta	taaaataaaa	180
aataataaag	gaacaacgta	tttttctatt	caagactttt	tatctgagct	tcagatacat	240
atatccaatt	gcttacttga	catctccact	tagaggccag	aggcatttaa	actcaatacg	300
tcttaattca	atctcatgat	cttccctctg	aaatctaate	tcctactctt	ccctatctta	360
atgaaagaca	acaccatccg	tccctttaca	ttaagtgtt	cagcttatcc	ctacatctat	420
ctcatcacta	aagaacaggt	attttcaccc	ttttgagtat	cattcaaagt	cnttctactt	480
cttttccatt	cntactggta	ccccctang	ggnaagntat	taactttttc	ctacctacng	540
ncctttttgn	ancccttcca	tcaantnttc	cnaattgnga	nggtnaattt	tttnnaacccc	600
aanntggnga	tacnnngtgg	gnng				624

<210> 214
 <211> 612
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(612)
 <223> n = A,T,C or G

<400> 214

ggtacaagtc	tggttaatacc	ctatgtgggt	tcattaggat	aactttttac	ctatccttga	60
ggtcatccat	attctttacag	gccttccagt	caataatgga	agagctcact	ctatacaaaa	120
ccaatatgca	aggcatgtgt	ttgtccaagc	aattggatgt	gtgcagtagc	caatttcatt	180
tactgcatta	ctctttggcc	tggaaccct	gtggcttgca	ctacatgtga	atggccttcc	240
acttcagtct	taggcagatt	tgacctttta	ggggcagcaa	tgctgaagga	cacagcaatt	300
ttaaattataa	tgtgtcaggc	tgtgttttca	cttcaaacat	gtatgagtag	tcagctgtaa	360
ttagagaaat	gatgacttcc	taagagttca	gccacgcata	attctagatt	tcaagagcat	420
ctaagacttg	tggattacct	catggcatga	gagtttcaga	ctcagccntn	tgagccagtc	480
nagggaaagt	ggagtctgca	acgcaaata	aaacctggct	ttggggccaa	nggacttggc	540
tttaaattggg	cccccttngg	cctgggnttt	cctcttttgg	cnaaantttt	ngtnnccaan	600
gaaagtaatn	ag					612

<210> 215
 <211> 618
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(618)
 <223> n = A,T,C or G

<400> 215
 ggtactcggg aggctgatgc agcagaattg cttgaaccca agaggcggag gttgcagtga 60
 gctgagaacg tgccattgca ctccagcctg ggcaagagag cgagactcca tctcaaaaaa 120
 aaggtgagaa agataggtgt gaacatgagg tggcaggtgt gaagatagga aaggcaggct 180
 cacccttgat gacatgcagt tagagagacg ggggcttccc tttcactttg gagagtaaag 240
 agaaggctct gaggtatcaa cagcctgggc tgttgggaaa aggacaaaga atctgtgttt 300
 cctgaacgcc aagaggaagt ctctttggtt gctgtgggct aactgggtct ctccagttcc 360
 aagaggtcat ccacatattc cacaacttct ccctcatcat catccattat attttcctta 420
 nccaaagtca tacaagcttc ntctggagtg gtggnacatg ttaagaactg aactgnttta 480
 agnctgggct ggaantgctc attcnaagg ccccantggg cctnngggan ctngccngcc 540
 ggcccnttaa aggcgaattc cancanntgg gggccgggtt tangggancc aacttgggnc 600
 caacttggng aaatatgg 618

<210> 216
 <211> 595
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(595)
 <223> n = A,T,C or G

<400> 216
 ggtactccca ttcaggggtga cgaagtgggc agaactggga gccatcttgc ccagcccctt 60
 ggtgctatgt ttaccttgaa gcaatccttc ggccttagga ttggcctcta gtagttcatt 120
 acactgacct agagctacct ctgataagag cagcagtcct gtattcttta ggcgagaggg 180
 aaagcagtaa ttggcactct tgggaagacat gtcagcaaag tagattcctt tcccaaacat 240
 gtaacctgtg atggggagctt caggtggggc aattcgaagc ccatgggtca agattccac 300
 ccagttactc atcctggaac catgccatag aagcatcctg ttatgaaggc cctctctgaa 360
 ggcttctttc tcaccatcct tctcacttca aacaaatcca gcaagggtcat ggtataagtc 420
 gctgtgtgtg ggaancatgg gtagaatgga aggtacctgg cccggccggc cnttcaaaag 480
 ggccaaattc cagcacaatt ggngggcgt tactaaggga tnccaacctt gggncccaaa 540
 cnttggngga atcatgggcc naaactngtt ccctggnggn aaattgnaan cccnn 595

<210> 217
 <211> 610
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(610)
 <223> n = A,T,C or G

<400> 217
 actgaaaact ttttttaaaa aaggtgatga tgaagtgc tctgtagcag cagcgcagct 60
 atgcttttaa ccacacaaaa ggctgtgtcc aggtgcagcc tccttcaccc ttctgcecca 120

cgggtgaggat	tgaataacca	ggacttgggg	atattgtttg	ttgtcagggt	tattctgtgt	180
ggtaaggaat	atgtgtttca	catttatata	ttttctttt	ccactcacgt	aagtttctat	240
cttgagagca	tagtccaaag	tgcaaaactt	ggtgtttaca	aggaaaattg	tcttccagaa	300
ctccactgtc	atcactttca	ccaaagtggg	agtttgcatg	aatatgctca	gaatctaata	360
ttcaatgttc	tgttacattg	taagtgaagt	ccagctcaaa	atagatttaa	tatttgaat	420
ttatttgnac	cntnggccgg	gaacacgcct	aagggcgaaa	ttncagcacc	actggccggg	480
cgggttcctaa	ngggattccc	aaactntggg	nnccanactt	nggcgnnaan	cnatngggcc	540
taaaacttgg	tttcccctng	nngaaaattg	ggttatnccg	gttacaaatt	tcccnncnaa	600
atctccgggg						610

<210> 218
 <211> 585
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(585)
 <223> n = A,T,C or G

<400> 218	
ggtacaattt	gtaaatattt
aatgatgttg	atcagagaaa
gattctgttt	tgctgttagg
acacaggatt	ttcagtaaga
gtctgttggg	ggaaaaaaga
aatcaaaaag	gatgttcaaa
tagatgatac	aaagtcctct
ctggtttctg	ttttccatta
ctttnaaatt	gaaaccgggc
aaattgnatt	cnetggntcc
caaaggtcta	ggagtcataa
ccaactgttt	tgcttttcat
taagctaaac	tcagaaaattg
aaacaacccc	agtcttgtct
ggatatgctt	ttaaaggtag
atccaccagg	acagatgcta
tggggctgaa	aatcacttcc
tctttttcac	agaaagtntt
agtantttga	cccctgnttg
attccccctc	cttng
tcatactgaa	60
gaaatttgag	120
gactggataa	180
ttgttgagga	240
cttctgtgtt	300
aatggagcca	360
gctttactaa	420
tttttccagc	480
ccagnaattn	540
	585

<210> 219
 <211> 599
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(599)
 <223> n = A,T,C or G

<400> 219	
acaggtcaca	gacccataca
caaccttgga	aaaataaact
gtatactctg	tatcacttga
ggactgtttt	ggccagatgt
gaatggcatg	ttctataaat
atatctctgt	ggattttcca
tgccataaat	tctggattta
attttggaag	cccctacttc
ttttaaccac	ccangnccca
tnanttgggc	ctaaccnggg
tctactgtg	gcttgtgtct
tttaaattga	ttgagacttg
atactttcca	agtgaagaca
tttctatata	ctggaaagaa
ctcaattaca	tcaagttggg
tttgttctag	tgattattga
tctacttctc	tttggagatt
acccagcatn	ggncctttct
tccaaccctt	aaccccaang
gaaccocattg	ggggnccttn
ggcacatcct	60
tttctttggg	120
tccagagtat	180
tgctgttggt	240
gatgtcttct	300
ttgatataat	360
tgcttcatgt	420
caagaagtaa	480
cgngggcang	540
ganaccnng	599

<210> 220
 <211> 602
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(602)
 <223> n = A,T,C or G

<400> 220
 ggtacccatt taatataact atgatgcact taaattgaag ctatgccaca ggatagaaaa 60
 tgaattacaa cttaaataca tgttggaagt gtaacactgt ttttcaagggt ttaaaaaaat 120
 tcctaattgtc ttttagcctt ctttaatat tttaggtaag gaaagtatgt ttggattttt 180
 tcctctttgt aggtatatga gattgaaatg tgaagtattt ggacaacaaa cgtcaagcaa 240
 tgggaagcca ttttgatttc ttgagtaatc ttgtaagcat taagtgaatg acaaagtagt 300
 agtgtaactt atttcttatg gtataacttc agtcaattaa tataaggata gtttttgttg 360
 tatgtacact aagtggtaat ataatngcca ttgaantata ctaatctttc tcttaanaga 420
 ctattcnnct nttaattgnt tcctaattggg aacantntng gcctaaccn gaaaaagggg 480
 ganaaaggat tncctgccc nggccgggcn tttccaaagg ggcanatttn cgnnacactt 540
 ggnngcccg tntctanngg aatccnannn tgggcccaan anttgggggg aatcttnggc 600
 nn 602

<210> 221
 <211> 573
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(573)
 <223> n = A,T,C or G

<400> 221
 acctaataa aagatctcca agaggtttgt ctcattctcc ttgggctgta aaaaagatta 60
 atcctatatg taatgatcat tatcgaagtg tgtatcaaaa gagactaatg gatgaagcta 120
 agattttgaa aagccttcat catccaaaca ttgttggtta tcgtactttt actgaagcca 180
 atgatggcag tctgtgtctt gctatggaat atggagggtga aaagtctcta aatgacttaa 240
 tagaagaacg atataaagcc agccaagatc cttttccagc agccataatt ttaaaagttg 300
 ctttgaatat ggcaagaggg ttaaagtatc tgcaccaaga aaagaaactg cttcatggag 360
 acataaagtc ttcaaagtgt gtaattaaag gcgattttga aacaattaaa atctgtgatg 420
 tanggagtct ctctaccact ggatgaaaat atgactggga ctgcccttga ggcttggtac 480
 cnttggcncc aancccttgg gaaccccaaa aactntggaa gagaannngg gttttcctgn 540
 caggcaacat attgcctttg gcctnctttg ggg 573

<210> 222
 <211> 168
 <212> DNA
 <213> Homo sapiens

<400> 222
 ccaccatctt ggaacgggag gcggagcaga gtcgactggg agcgaccgag cgggcccggc 60

ccgccgccat gaaccccgaa tatgactacc tgtttaagct gcttttgatt ggcgactcag 120
gcgtggggcaa gtcattgctg ctctgcggt ttgctgatga cacgtacc 168

<210> 223
<211> 564
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(564)
<223> n = A,T,C or G

<400> 223
actgcagaca aaatctgctt ttagaggcaa gcggatttct gacaaagtaa ctgacccctt 60
ggatggcata aattcacttt ggggactagc cttattcttc ctctgaggtc cttcgcttctt 120
caatttatct aattcatcaa tcaaaagtgt tctcttccca gttgcaatta gaagaagtct 180
ttctgcttca gcttcttcta ggggcccttt tccatgttct tcatcaacac agcagttaag 240
agcctggcta gcttgataga tcactgtctg ttgcatattt atttcgttat tgagttcctg 300
cattttctgt ttgatattaa cttgacaagg aaaggcatta tttttttcat ccagttttga 360
agtaacatct tcttccgaa caatcacctg ctttattgat ggacgttctg tttctttgaa 420
tctttgagat ctatatgcat caatgctgta aagaagatca cgatcttcag aaccaaggct 480
atcacnagat tcaggtcgag ggacacgaag ttctttingaa tttcctgggt ttggactttc 540
atcacttctg ctggncttt caan 564

<210> 224
<211> 277
<212> DNA
<213> Homo sapiens

<400> 224
acaaggctgg cggttgttgg gggacggttg agccttggga gggagggtca gggctctggac 60
aggagccgcg gccgccagat gggaaagaac acgtgggagc agtaatgtca agtgacactt 120
aaacccttag acgccgattc gttataacgc gaggaaatct aatcccacgt ccctaacggt 180
cttcggaagc gaagcagtgt caacagtccc tggtaaacac aagtagtatt acaagtcggg 240
agctcttcaa gtcttgatg agactgtaga gcggacc 277

<210> 225
<211> 589
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(589)
<223> n = A,T,C or G

<400> 225
ggtacctgga ggctcaacgg cagaagcttc accacaaaag cgaaatgggc acaccacagg 60
gagaaaactg gttgtcctgg atgtttgaaa agttggctcg tgatcatggg tgttacttca 120
tcctatctat cattaactcc atggcacaaa gttatgcca acgaatccag cagcgggtga 180
actcagagga gaaaactaaa taagtagaga aagttttaaa ctgcagaaat tggagtggat 240
gggttctgcc ttaaattggg aggactccaa gccgggaagg aaaattccct tttccaacct 300

gtatcaattt	ttacaacttt	tttctgaaa	gcagtttagt	ccatactttg	cactgacata	360
ctttttcctt	ctgtgctaag	gtaaggatc	caccctcgat	gcaatccacc	ttgggttttc	420
ttanggtgga	atgtgatggt	cagcaacaaa	cttgcaacaa	gactgggcct	ttggttggtg	480
cttttnaaaa	ggccncttg	atccccattg	agnaattncn	cccggcccaa	aaaaagggtcc	540
taangttggt	aaaatttgca	agctttttta	ggtttgcecca	aagnatgnt		589

<210> 226
 <211> 636
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(636)
 <223> n = A,T,C or G

<400> 226						
ggtcaagaag	catgccacct	ccacaactcc	tacctggacc	tccagcgcag	gtatgggaga	60
ccctcgatgt	gcagagcctt	cccctgggag	aaggagctga	aagacaaaaca	ccccagcttg	120
ttccaggcat	tgctggagat	ggatctgctg	accgtgccaa	ggaacaaaaa	tgaatctgta	180
tcagaaatcg	gtgggaagat	atgtgagaag	gctgtaaaga	gactctctag	cattgatggt	240
cttcacaaaa	ttagctctat	cgtccccttt	ctgacggatt	ccagctgctg	tggataccat	300
aaagcatcct	actaccttgc	agtcttttat	gagactggat	taaatgttcc	tcgggatcag	360
ctgcaggggc	atgttgnata	agtttggttg	gaggccnngg	ggagtggaga	gctgcttcaa	420
tgaatcttgg	gtataaacac	taccaaggta	ttgacaacta	ccccctggac	ttgggaactg	480
ncgtatgcct	actacagcaa	ccttgccnc	caagaaaccc	cttggaccag	cacacacttg	540
gaaggngaag	caggcctttt	gttgaaacca	tttgacttaa	aggattgttg	gaaatcttca	600
nggnaccttg	cccggcgggc	cctttnaaaa	gggggna			636

<210> 227
 <211> 451
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(451)
 <223> n = A,T,C or G

<400> 227						
acccaaaaac	caccccccaac	gccccccaac	cctcaggcgt	gcctgtgagt	gtgtctgtgt	60
gtctcactct	gactcaccca	gacaactgac	ttcagcagcc	aaccttggtc	attcccagaa	120
ccaccactgg	ggggcatatg	tgtggctaga	ctgggggcgc	ccgaatatct	gtctctacaa	180
aaagtaaaaa	aaaaattaat	ggggtgtggt	ggtggtgcgt	gcctgtggta	tcagctgctt	240
gggacgctgg	ggcangagga	tcacttgagc	ccgagaattc	aaggctacag	tgagttaaga	300
ttacgccact	gcactccatc	ctgggtgaca	gagcaagacc	ttgtctcaag	aaaaaatttt	360
taaatgagta	aaattcaaaa	aaaanaanaa	aaanaaaagc	ttgacacctg	aaacatgggt	420
tactgcatat	ggnacctngg	cngagacacg	c			451

<210> 228
 <211> 408
 <212> DNA
 <213> Homo sapiens

<400> 228
 ggTcccttat atggcagaat cttgcaggca gcatgtcgag tttgatatgc tggTgaagaa 60
 tagaaccCAA ggaatcattc ctttggcccc catatctaaa tcattgtgga cttgctcagt 120
 agaatcttcc atgggaatatt gtagaataat gtatgatata tttcctttca aaaagctggT 180
 gaattttatt gtgagtgact ctggagcaca tgttttaaat tcttggactc aagaagacca 240
 aaattttacag gggctaattg cagcattagc cgctgttggg cctcctaate ctcgggcaga 300
 tccagagtgc tgcagtattc tgcattggct tggtgcacag tggaaactct ctgcaaaatt 360
 actgaatacc aacatgagggc tcgtacctgc cccggggccgg ccgctcga 408

<210> 229

<211> 270

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(270)

<223> n = A,T,C or G

<400> 229
 ggTaccacagc agcatcaaaa aggctattta caagagattt tcttcaacag aatccacttg 60
 aaagcactga gaatttgcT cttagctaaG agcagtttac caaggaacag ggccatctaa 120
 gtgcctaact agcattttaa gttgtcaagg ggtggggatg tgcaaattaa gcagcaaaag 180
 attattatct tgtnttgctt taagggaag taatantggT cagagggggc agttccaagg 240
 gctggTccaa ggggggcccG tggtcttggT 270

<210> 230

<211> 425

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(425)

<223> n = A,T,C or G

<400> 230
 ggTaccattat ccaatttcag ggaaaaaaaaa tacagttttc ttaccaaatt atccagtgtA 60
 tatgactggT tagaatttta agttttgatt tttactgaaa ttcagagtat gaaatgcaaa 120
 cattcaggat aaaatgaatt cataattaca cacagttata tcaacttgca acaaagcagc 180
 aaatatgagg gcctaacaca catctcgact ctccccttcc cttctgatcc ctcaaaaaaa 240
 agtgcaaaat caaagagtca ctgcttggtc caaaaaataa aatacattgt gtataaacat 300
 ttgaaatctg atggaatcca gcttctattc cacaggttgt cttcagtaag aatcaacgtc 360
 cgaagatgga actcagttcc agaagaatta attctacaat ctgattctgg tcctgccggg 420
 cgnc 425

<210> 231

<211> 639

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(639)
 <223> n = A,T,C or G

<400> 231

gcgtgggttcg	cggccgaggt	actccaagaa	gtctgtctgc	cattgatagg	gctggagcag	60
aggtgaagag	tagaacaacg	cttttcagaa	agattggaga	ctttagaagc	ttggagaaga	120
tttcacggga	agtcaaatca	attacgatta	tcggtggggg	cttccttggg	agcgaactgg	180
cctgtgtctt	tggcagaaa	gctcagagct	tgggcacaga	agtgattcaa	ctcttccccg	240
agaaaggaaa	tatgggaaa	atcctccccg	aatacctcag	caactggacc	atggaaaaag	300
tcagacgaga	gggggttaag	gtgatgccc	atgctattgt	gcaatccgtt	ggagttagca	360
gtggcaagtt	acttatcaag	ctgaaagacg	gcaggaaggt	ngaaaactgac	cacatagtgg	420
cagctgtggg	cctggaaccc	aatgttgagt	tggccaagac	tggtggcctg	gaaatagact	480
cagattttng	tggctttccg	ggtaaatgca	tnacttccag	cacgctttta	ccatcttggg	540
tggcangaaa	atgctgcatt	gcnttctacg	atntaaaagt	tgggnaagga	ggccgggttan	600
aacncccntg	aacncccttt	tgtgantggg	aaaattgcn			639

<210> 232
 <211> 369
 <212> DNA
 <213> Homo sapiens

<400> 232

ggtactaaaa	ggcctcaaaa	taattagtga	cagaaatagt	gttattaatt	tgctaagctc	60
aacaataagc	aattccttaa	ttaaaatctt	cgagatataa	atttgatgac	tattctcttc	120
agaaatgaca	tacctggatt	atgttaatca	tcacaagcct	tattagtac	acataataaac	180
atggcctcat	gcaatcattt	gtctgtatat	gttactctaa	gttgcattag	cacaagggtt	240
aatatctata	tctttaagaa	aatacttgat	attataaaca	gagtaaaaga	catgatatag	300
tagtgattac	taaaaaaaaa	aaattagcag	cttaaatcta	tctatatttg	aaaaaacgta	360
gtcacaagt						369

<210> 233
 <211> 618
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(618)
 <223> n = A,T,C or G

<400> 233

accctctctt	ccagcaccca	ggccaggtatt	gagatogatt	ctctctatga	aggaatcgac	60
ttctatacct	ccattaccgg	tgcccagattt	gaagaactga	atgctgacct	gttccgtggc	120
accctggacc	cagtagagaa	agcccttcga	gatggccaaac	tagacaagtc	acagattcat	180
gatattgtcc	tggttggtgg	ttctactcgt	atccccaaga	ttcagaagct	tctccaagac	240
ttcttcaatg	gaaaagaact	gaataagagc	atcaaccctg	atgaagctgt	tgcttatggg	300
gcagctgtcc	aggcagccat	cttgtctgga	gacaagtctg	agaatgttca	agatttgctg	360
ctcttggtatg	tcactcctct	ttcccttggt	attgaaactg	ctgggtggagt	catgactggc	420
ctcatcaagc	gtaatacccc	attcctacca	agcagacaca	gaccttacta	cctattctga	480
caaccagnct	ggtgngctta	ttcanggttt	attaaaggca	accttccctg	acaaaggata	540
ccacctgctt	ggcaagggtt	gaactcccag	gcctgccnng	aagggaatgcn	cggggggatt	600
nctggggggg	ggncncn					618

<210> 234
 <211> 603
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(603)
 <223> n = A,T,C or G

<400> 234
 accagatgga aaatgttttt ggtgatctgg ctgctgctta aagccagttt tccctaagaa 60
 ctccaaaggc taaactctac taggggcaga gtgtgaggat agatttctaa tcagagaaaa 120
 gtggcctcca ggagctttca tttatgtctt ctccagacca ggttttcctg ttatcttctt 180
 ttaatcccct ttcaaccaac aggtgaagtt cttccagccc acagaggtag taatatcatc 240
 ttttctatct cctcctctcc tttggccatg taatgaagca aaatattatt tatttagccc 300
 aggcttgaga gccactgttt gtggacagtc ttcatctaga ttccataccc tggcctaggc 360
 gaggttaaggc tctctgggta ttgccaggat ggagcccctc taccctangt ctgctgtang 420
 gaatacccta attagttgan gcatgctttt ggaatcctgc atgttggcat atggctggnc 480
 tctccttttt aaaanctctg ggtgggggna tctggatatn gattaagang ggacaaggag 540
 ccttttcttg gctaanggtt ncaatacctt tttgaatggg gccagccctc aggcttccca 600
 ccc 603

<210> 235
 <211> 328
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 235
 gcgtgtcgcg gccgangnac atggacnaca ggtgangaac aggtgaacat ggaggttgta 60
 gancccgagg gagggggagt cacttggttt ggggcaaact tgctaaatgc aggaccacag 120
 gaaccanctn ttcanctncc gtgaganttt ggctgcccان gccanttagg ggtgtgggccc 180
 tgcacgggag acagttatcc ctttctantc tggctcgctg gactntnnan ggantcantc 240
 tgcaacagta agtgggtgant tcttctgncc ancgtcagta ttttgatggt ggcttttagac 300
 ttgccagatn acactacntn acatcagt 328

<210> 236
 <211> 352
 <212> DNA
 <213> Homo sapiens

<400> 236
 ggtacacctg ttaggagctc tatcactctg aaagccaaaa gatagaatgc tcatttgagc 60
 atttgcaaaa tgttctctat ttatatTTTT aaaaatctga tacatgtaag tttttctggc 120
 agattctttt tgtatgttac aaaacaaaac atcaaaaagct cagagtaaga taagaatccc 180
 tttttcttag aaaggccaag cagatacttc ttgacatcat gtcctttata caatggcata 240
 ttgttcatat aaaaggcttc ttatcctata aaaatcttga caaaggcagc cttctaatcc 300

aatgcgtcca gtttccggttc tgcggactgc tacttgattg ttgcaaacia gt

352

<210> 237
 <211> 607
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(607)
 <223> n = A,T,C or G

<400> 237
 ggtacaaatg cgcttccagc aggaggtcat ggacagccct atggaagagg tcctgctggt 60
 caatctttgt gaaggaacct tcttaatgtc gggttggtgat gaaaaagaca tcctgccacc 120
 gaagcttcag gatgacatct tagactctct tggtcagggg atcaatgagt taaagactgc 180
 agaacaaatc aacgagcatg ttccaggccc ctttgtgcag ttctttgtca agattgtggg 240
 ccattatgct tcctatatca agcgggaggg aaatgggcaa ggccacttcc aagaaagatc 300
 cttctgttaag gctctgacct ccaagaccaa ccgccgattt gtgaagaagt ttgtgaagac 360
 acagctcttc tcaacttttca tccaggaagc ccgagaagag caagaatcct cctgcaggct 420
 atttccaaca gaaaatcttg aatatgagga acagaagaaa ccngaagaaa ccaagggaaa 480
 aaactgtgaa ataagactgt ggtgaattag aatggctaga gctaccccca ttntnggctt 540
 tagccctgcc aagtggcagg ntcancaact gtcagnttcc naatcctaata cntactttgg 600
 gnnntgg 607

<210> 238
 <211> 391
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(391)
 <223> n = A,T,C or G

<400> 238
 acaaaacttag aagaaaattg gaagatagaa acaagataga aaatgaaaat attgtcaaga 60
 gtttcagata gaaaatgaaa aacaagctaa gacaagtatt ggagaagtat agaagataga 120
 aaaatataaa gccaaaaatt ggataaaata gcactgaaaa aatgaggaaa ttattggtaa 180
 ccaattttatt ttaaaaagccc atcaatttaa tttctggtgg tgcagaagtt agaaggtaaa 240
 gcttgagaag atgaggggtgt ttacgtagac cagaaccaat ttagaagaat acttgaagct 300
 agaaggggaa gttgggttaa aatcacatca aaaagctact aaaaggactg gtgtaaaana 360
 aaaantgtna nnaaaaaaaa agcttgtcct n 391

<210> 239
 <211> 466
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(466)
 <223> n = A,T,C or G

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<400> 239
gggaggggaga cgggggagag agagaaaaaa aaaaaaaaaa aaaaaaaaag cttgtgttgg      60
tcccagcggt tcagctgagg tagggacgtg ccgtaggccg gaatgttacc ggctgttggg      120
tctgtggatg aggaagagga tccctgcggag gaggattgtc ctgaattggg tcccattgag      180
acgacgcaaa gcgaggagga ggaaaagtct ggccctcggcg ccaagatccc agtcacaatt      240
atcacgggtt atttaggtgc tgggaagaca acacttctga actatatttt gacagagcaa      300
catagtaaaa gagtagcggt cattttaaat gaatctgggg aaggaagtgc gctggagaaa      360
tccttagctg tcagccaagg cggagagctc tatgaaagag tggctggaac ttagaaacgg      420
tttgccctctt gcttgttcan tgaagtgagg aatgtgttta ctgggt      466

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<210> 240
<211> 616
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature
<222> (1)...(616)
<223> n = A,T,C or G

```

```

<400> 240
ggtacaactc ttgctaattg aatgctataa tgcacaagggt caaggattta ataaattcta      60
aaagtgtcta catatatcag tgataactgt attattagaa atataaatgt atagaaatat      120
aaagtatatg gtattaaaaa cagaccttgc taatataaac atatataaag tatgtcactt      180
ctcctgtaat aacagcataa agatcgatct acagtttgcc cttcgccctgg cactcttaaa      240
ccactcctcc aatggtcaat gttgaccttg aatcaacagc cgctgaaccc aggagacccc      300
acagatgtgt agattcagca cctanagggc cccctaccc tctgtgctgt gtgttcccat      360
gactccagaa ataattaatc gcaacttgca ttattaagtc cacaggcaag ttttgaaatc      420
taactagaaa aagtagcagc aaaggccaaa ataccgcggg aatttgttta gaaaagcaac      480
cagaatttct taaaatgctt tcanttcaag gtctgaatta aggtgacntt aggtcccacc      540
agcnttaacg nagttggggg atgttttgct gntgggtttt naaaaaagaa gaatctgcna      600
taaacatgtc ctttgg      616

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<210> 241
<211> 598
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature
<222> (1)...(598)
<223> n = A,T,C or G

```

```

<400> 241
ggtactctat gaatgtgtta cccaggagac cccagagatg ttgcctgcat acatagcaat      60
ggatcaggct ataagaagac ttgggagaag agaaatgtct gagacttctg aactttggca      120
gataaagttg gtgttagagt ttttcagctc ccgaagccat caggagcggc tgcagaacca      180
ccctaagcgg gggctcttta tgaactcgga attcctccct gttgtgaagt gcaccattga      240
taataccctg gaccagtggg tacaagtcgg ggggtgatatg tgtgtgcacg cctacctcag      300
cgggcagccc ttggaggaat cacagctgag catgctggcc tgcttcctcg tctaccactc      360
tgtgccagct ccacaagcac ctgccaccta taggactaga agggagcaca agctttgctg      420
aactgntctt caaatttaac agcttaaaat gccagtgcga gctttgttga natggctcct      480

```

ttgcttcttg gaaatccaca gccatggtga tgtgaccgtg ttggccggga acctacctga 540
 acgtgacttn tggcacaacg tgaccaacct naaacttaag catgttttaa gtttang 598

<210> 242
 <211> 565
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(565)
 <223> n = A,T,C or G

<400> 242
 acagagcttc gggtagcaga agaggaatgg cctatggaca tattgactct tatggggcag 60
 atgatagtga ggaggagggg gctgggcctg ttgagcgacc gccagtgaga gggaaaactg 120
 gcaagtttaa agatgataag ctgtatgacc cagagaaagg ggcaaggctct ttggctgggc 180
 cacctccaca tttctctagt tttagccgtg atgtgagaga ggagcgagac aagttagacc 240
 cagtccctgc agcaagatgc tcagctagca gagctgactt cctgccacaa agtagtgtgg 300
 ccacacagtc gtcttctgaa ggcaagctgg ctacaaaagg tgacagctcg gagagggaga 360
 gaaggggagca aaatttacct gcacgttcca ncaggggctcc tgtgagtatt tgtggtggtg 420
 gggaaaacac ctnaaagaag tgcagaggaa cctgtgggtca ggccccaat cagaaacctg 480
 gcaggtccaa ctgctgtaaa cccaaaattt ttttttgatc ctgatgatga ntgaccatnt 540
 ccncaccgta cctttggcgn gaaca 565

<210> 243
 <211> 647
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(647)
 <223> n = A,T,C or G

<400> 243
 ggtacttgga atgggggctg ttttttggct ggtctgagtg caggactttg ctgctaggat 60
 gcttaccaaa tagaaatttg actcagagcc tgtggctggg gaattgtcct caggaagtaa 120
 aatggctcgc cagctttcct acctgcttgt ggatgcctca gatagcaatg gtcggacagg 180
 acacttcagt gtgggaagca gcatccgggtg aggctgtgct ctggcacagg gggatcctga 240
 atctcccat ctcttctaag ctgacctgtc cacacattct gagggattaa gcttagagca 300
 cctaagaaca gcagcctccc caggagaggc cagggaccaa agtggcagga atcctagaca 360
 actctacgct ttttctgcac taaccagctg ggtgactcta aacatgtcac ctccctntgg 420
 cctnaacttt ctcatcgacc aaacgaanga gtagtagactg ngctttcagc ttaagaccga 480
 aaaccgtatc ttaacccttt tctggnacct tgcccggccg gccgttcnaa angggcaa 540
 tccnnacact gggcgggccgt actaagggt cccacttngg gcccactt ggggtaaa 600
 tggcanaact ggtncctgng gnaaatggta anccgttcca aatcccc 647

<210> 244
 <211> 603
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(603)
 <223> n = A,T,C or G

<400> 244
 acaacattca gggctttctt tttttcttcg gcaagctctt cttcctcagc agttttcttt 60
 tcattttacct ctctctgttc ctcttcactg tcagtttcta gaaatcgaga gtccatgcgg 120
 aatctgtcat cgggtgccaaa gtgcgactgt aaatccatga gcttctgtcc agctctgccc 180
 tcaaactgag gtttaatttt gaacctatta ctgtcatctt cagaatcaga ttcgtcatca 240
 tcaactgctat caaacagctt ccctgatgtt ttacccatag actctttcac ccattcctct 300
 cctggatggc tctgtccttg agtcgatgtc tcctctgttt cacattcact gtcagaaccg 360
 aagatgatgt gcgttggtt atcctctgga tgaccatcca aattgccaga gcattatgca 420
 ccagcttctt ctgcactctt tgctttttgc ctgccttcca aggctgncaa acgcttcttn 480
 attggcttca acatgcttat ctttagcact cacatttgac gaattactaa tngaaagggg 540
 agaaaanagt tttggattcc ccgagngccc ttggatgana cctttgggga ttcttganaa 600
 aag 603

<210> 245
 <211> 640
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(640)
 <223> n = A,T,C or G

<400> 245
 actgggcacc attaatgagg atgcaggaga tcaggtggcc caggccttcg aagatatact 60
 ggaacttgtg ctgctgaagg ctggcgctca tggcctcttc aatggcgctg atatctttgt 120
 tgagcttgac caccaggggg tcataatcca tactttccac attagccaca atggcatagt 180
 tcccctcctt tgcaagaggg ataagatagt ggaaacagtg aaccctcact tccagatgta 240
 agacaagcaa gcagcgggtca gccatatact ggaacgattt ggcaagttca ctgagagtct 300
 gcatgatctg ctctgacact gggggggagat ccgtgttcgt gtggctgctt gagcaggaga 360
 aagcatctgg gatgtagaaa gattggaaga aagctgactt ttgttcgact tgccaaccat 420
 tccaagcttt catgcntgtt ngccaaggct ttganggcac ttgaccgtca cgaaggatnc 480
 ttgtggaagg antaatttat caccaagggt ccaatagaac tttagactcc ttgncaaaac 540
 tggccttatg aaaacttntt cntcnctctt ttggcctanc tgnttngggg tgngcctntt 600
 cattccantt gggnaaaaat tcaaanattg ctggttcttn 640

<210> 246
 <211> 608
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(608)
 <223> n = A,T,C or G

<400> 246
 cgagggtactg tcattgaagt ggaaccagcg gccttcgtga gttgcgtatg ctgtgtaatg 60

tccagaacca	accccggaac	catggtgac	caccacagcg	gcgaggtcat	acaggcagct	120
ctccgggcca	ctgttctcag	gctctagtaa	gtagcatttc	atgtctaggc	ctctcagtgg	180
aaattctacg	tatgtatcaa	ctttatttct	taaatatgct	gtccaatgaa	atcttttcaa	240
atgtaagcat	agcaccttgg	gtagtttttg	aatccaaaac	ttttttgtgg	actttttgtt	300
ctttttgcat	ttatggcaca	tatataactc	tgtctcatca	agttcttcta	agtcggtaaa	360
actgccaaga	caatctcgta	acgaacaaac	tgggtccattt	tcttgattct	tagagcgctt	420
acttctgaac	tgacttggaa	tatctaata	aaggtctang	gaatggatca	aactttttaga	480
atctgcccc	tatgaggcag	ttacctcatt	ttggagaagc	ctccgaatat	agccggacaa	540
cagtnaagct	ccattatgna	ccttggtacc	ttgcagacag	ngtaaaatnt	cctgcaaaat	600
gntgaccg						608

<210> 247

<211> 632

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(632)

<223> n = A,T,C or G

<400> 247

acagaaagtc	agagaacact	tacagaactt	ggaaaactca	gctttcacag	ctgacaggca	60
taagaaaaga	aaacttttgg	aaaactcaac	actaaacagc	aagttattaa	aagtaaattgg	120
aagcaccact	gccattttgtg	ccacaggcct	tccgaatttg	gggaacacat	gtttcatgaa	180
tgccatcctt	cagtcactca	gtaacattga	gcagttttgc	tgttatttca	aagaactgcc	240
cgccgtggag	ttaaggaatg	ggaaaacagc	aggaaggcgg	acataccaca	ccaggagcca	300
aggggataac	aatgtgtctt	tggtagaaga	gtttagaaag	acactctgtg	ctttatggca	360
aggcagccag	actgnattta	gcccagagtc	cttaatttat	gttgtttggg	agaatatgcc	420
caactttagg	ggctatcaac	agcaggacgc	catgaatcat	gcgctccttt	tggaccctta	480
ccttggaact	tcaggcggn	caacgggggt	tccgctnaac	attttgcagg	gaaatctact	540
ttgctgcagt	accaagtgg	gctaaatgga	catttntggt	gcacggtnnt	ttcgagggnt	600
ntccaaatnn	ggttactgcn	tanttgggga	aa			632

<210> 248

<211> 624

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(624)

<223> n = A,T,C or G

<400> 248

actccgaggg	gcctggcgag	gacatgtaga	aagactgcgt	tttccttttc	aatcggggccc	60
ttttgttggc	caacaccaga	ctgcgcgggc	ttgaactgat	gatttccgaa	atgaacttct	120
tgcagtccac	acacacctcc	atggtgctcc	agtcctccat	caactctttg	ggaaactgga	180
gttcttcatc	tgatttgtcc	atagacttag	attttgagga	gaacctggca	atgctccgaa	240
gtggccgatg	atggggcagt	gagggttttt	ctgacctcat	actactttcc	cctctttgca	300
gagcagaagg	tcccaatgaa	aagataggaa	gagtggagta	tggtttggag	ggcagcccgc	360
atctttttgc	aacactgtga	gcacaccggc	ctnttacaga	actgacaggt	ataagaccaa	420
gtgaagaagg	aaaaccttct	ggttcggcaa	ccaaagcaga	gctttntctt	tttcaagncg	480

tgtnaagnct	ttatctgggtg	atattttcca	ntntgcntta	ccaggaccgg	cgaatatgnt	540
ncttnttccc	agtagacnag	nattcnctgg	gaccaaattc	taaanaccgg	acttntctgaa	600
gnngaggact	gcttcgttta	ggct				624

<210> 249
 <211> 636
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(636)
 <223> n = A,T,C or G

<400> 249						
acagtaaaaa	gtaaacttcc	ctccatccca	ggcctgccag	catccctgat	gccgactttc	60
tgggtgtggc	ctagggcccc	tcagtgtaat	gtaggggttg	tgagcacaga	ctttggtgcc	120
agtttgctag	gttcgaatcc	tgactccctc	tttgtagctc	tgtgcttcaa	ttgaaatact	180
gtgcctcagt	ttctccttta	taaaggcagg	gatcatgaga	gtgcctgtcc	cttgtgagca	240
ctatgaaagt	gttagctggt	ctttaccaga	ataaatgcat	ttctatatct	tcccatatgc	300
attttgntaa	tttttaaagt	atttcaaaca	caaagtgtga	aacagaaaat	tgtgtaacat	360
taactatgaa	cttaccaccc	agaatttaca	aatgctgaca	ttttgcaata	tttatttcng	420
atctattttt	aangggggga	accctgcagt	tactgnttaa	tcctttccac	ccacctttta	480
attttacacc	angagcatag	tggtcatacc	tangctaatt	ttttcagtac	ctgatataatt	540
tggagaactc	cttcctaggg	ataaactttg	nccctttttt	taanagtggg	taacctttgg	600
gacnaaaggg	cttgaacaat	tggcccatcc	ctttgg			636

<210> 250
 <211> 669
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(669)
 <223> n = A,T,C or G

<400> 250						
ggtacataat	ccggcagctc	catggcatct	cgcttctggg	gctgtgcctc	agccccaatc	60
agaaggttga	aatgagtggc	caaagtgtct	cgcagcaaag	tcttattggg	tgggatgttc	120
aataactgag	ccattgtttc	tacgttaaaa	cgaggctcta	gaaccatgag	cccaccatgg	180
acaccactgc	ctctgagatt	gggcgcatat	tctgccaagt	ccacggagcg	cagccactcc	240
atcactcgat	gggttagtcca	cttctgaact	tctgatgggg	cgatgggtatt	ctcatcagat	300
ggccgcctcc	gtagacagtt	tggttcaaaa	gttattgatc	ctcaggacct	ggatggccct	360
tttgatactg	agatgggtgta	ncacacttac	cacctttcag	agacagtaag	tcatcaacag	420
tcatgtaatg	taacattcga	ccatnaaccc	ggccttnatt	aaactgggtc	ttatatttga	480
gggaaggncc	atggcattcc	aaccctntaa	nggaccnnnn	ttggaaatcc	actttcccat	540
gaatgggttc	ntttttnaaa	atcccanggc	nttngaaagg	ctaacttggg	nggttcnttt	600
tcatgaaang	aaagcctgga	ttccaaggtc	ccttttttaa	aactttgtgg	naaaccttgc	660
aaaaacntn						669

<210> 251
 <211> 670

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(670)
<223> n = A,T,C or G

<400> 251

actatttcaag	aggtgaagag	aaatgtgtat	gaccttaca	gtatccccgt	tgcacaccaa	60
ttatgggagg	gctggccaac	ttctgctaca	gacgactcaa	tgtgtccttg	tgaatcaggg	120
ctctcttata	cctgccatcg	acttacagtg	ggaagaagat	cttcacctgc	acagacccgg	180
gaacagtcgg	aagaacaaat	caccgatgtt	catatggtta	gtgatagcga	tggagatgac	240
tttgaagatg	ctacagaatt	tgggggtggat	gatggagaag	tatttggcat	ggcgtcatct	300
gccttgagaa	aatctccaat	gatgccagaa	aacgcagaaa	atgaaggaga	tgccctatta	360
caatttacag	cagagttttc	ttcaagatat	ggtgattgcc	atcctgnatt	ttttattggc	420
tcattagaag	ctgcttttca	agangccttc	tatgtgaaag	ccccgagata	gaaagcttct	480
tgctatctan	ctnccccntg	atgnaaagtg	tggtnaccca	cgggttctgn	gttaccaaat	540
gctttggggc	tgnaanccat	tgggttcctt	attctgggtc	aaaaattttt	taacccgggc	600
nttgggaact	tgccaanggn	ntccaccnga	gccangaatt	ttcactttgg	gccaaaaaac	660
cttttngngg						670

<210> 252
<211> 498
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(498)
<223> n = A,T,C or G

<400> 252

acacagcaca	ttctcttaag	agaaaacagg	aatgaacatt	ctcagaaaca	ttcacattgc	60
tcatcaaagt	tagctttacc	caaagtatat	aggaaatggc	aaaaaccta	cctagctgga	120
cattttatac	aagtaagtca	aagttcaaag	gaatcatcct	atctttattc	tcagaaatcc	180
aatgttgaat	atcacagttc	ttctttaatg	gaagcagaag	attcagagtc	cttgtctccc	240
aaaatgcctc	agccagggtc	agcacagaga	gtggaatata	aaaagcttaa	tttgtttaat	300
acatggaaga	caacagttct	cagtcaacct	agccacaatt	ttctgtcttg	gccatctgta	360
agaaatgact	accgtttgaa	attcaacttt	cacattcaaa	aaaaagaaaa	tcaattcagc	420
tttnagacac	aaagcaaaac	caaaacaaaa	aaacnaatgg	catagtctac	atatttnacc	480
ccttgacaat	tgggggaa					498

<210> 253
<211> 433
<212> DNA
<213> Homo sapiens

<400> 253

acgtttcagt	tcaagtgcaa	aaaataacta	tttgctgaat	tctatttctt	tcagttattt	60
tatttttaag	ctgtgtttta	ttgtgaagcg	agacatccaa	gtgtagaatt	tcttatccca	120
aatgcagtat	tgctccttgg	ttacgcttcc	tggggagaca	ggggttgctg	tgcttgagtt	180
caaagtcaag	tccatcatat	ggttagtaat	ttcacctgtc	tggggctgca	gagtggttcc	240

actgttcatg	tttggagctg	ttggcaaagt	aacgggtgtct	gagacattga	gccctgtttc	300
caaaagggtt	cttttctcac	gcatttttgg	tgatatggtg	aggaaagagg	taaaggaaga	360
atttggtggc	aggataagtt	aactggtgac	ttgcattggt	ggggtgaagt	tggttggggc	420
aatctttggt	acc					433

<210> 254
 <211> 652
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(652)
 <223> n = A,T,C or G

<400> 254						
ggtacaaacc	caggcctggg	cctaggaaag	ggcagaagaa	aggcaaaggg	tcccttggag	60
caggaaccca	tccctctctg	cttataccca	gcacccctca	tcccagggtc	ctttcttcaa	120
cctccgcctg	cctctgggaa	cacagagcac	caagaactga	caaaccggga	ccctccaggg	180
ccacagcgtg	gggcagagtc	caggcttctg	tctccccgca	gtgggagatc	tggggagctc	240
agtgaacctc	ctcacccctc	tgccagtatg	aagttgggaa	gcgccttctc	tgccccccag	300
aacagaacaa	actcttggtc	tctgtggttg	gggaaaagggt	gtgggggggt	tggaacctagg	360
aagaagctga	gctgaattcc	tccagggccc	aggtgaaacc	cccaagggga	gtttctgaga	420
cttctagact	tgccattctt	ccactttttc	cttccaatga	ctccggtgaa	gcagttaaaa	480
gtctnggctt	agggcaactg	gtaggacagt	ngggaatttg	ncccaagaca	tttgnngggt	540
tcaaanaag	gtttcccaac	accngaatac	ttatatggan	cctgccnggc	nggccgttca	600
aagggcnaat	tcngnccctt	ggngggcgta	ctaagggaac	ccactttggg	cc	652

<210> 255
 <211> 605
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(605)
 <223> n = A,T,C or G

<400> 255						
ggtacgacag	tttgttgggt	ttattgggaa	cctccaacat	ctccacaaca	atgtagtatt	60
gtggaaggcg	ggtaagttaa	atgaacagtt	tattcttaga	aaggtttcca	ataggatgag	120
ttgagtaatt	ggaaagctgc	aatgtttcac	tgcttatcgt	aggcagatgt	tttatagact	180
gcttgcaacg	ctgttgtcca	agccaaaact	taagttgctg	aatccagggt	atgattcggt	240
tcatatcatc	attcacagac	ttctccatgt	catccagagt	ggcctggtca	agtccataaa	300
gcatcaattg	aaacattcca	gaatgtaaat	ctacaaaaat	gtgcaggcac	tctgaattac	360
cacagggctc	caagatggga	acaacaagag	ctgggagtgc	agtctctatg	gaagagtttc	420
attggcattg	aagcctctaa	gaatggcctt	cagttcttgg	agcttctgat	gagctcttgc	480
atggacactg	gnaatcangg	agttttctat	tgataagtgg	gccgatcttc	atggctcttt	540
ctactaattt	ggaatcanaa	nttgcaaagg	aggatcgtga	aaaatttnna	aggtttggaa	600
acatn						605

<210> 256
 <211> 654

<212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(654)
 <223> n = A,T,C or G

<400> 256

acagttcaca	agcttcaggc	aaggggacgc	ctgagactat	ccgagtgatg	ttgaggcaat	60
ccaggcacag	caagtcattc	agccacttct	ccactgcac	cccagggggc	gtatcggatt	120
gactcctgga	gggaaacctc	atgcagtgct	cgcgctgatg	ccaatctggc	tgctcgtcgtg	180
gtcttattct	cagcagtggt	gctgacctgg	ctctggggcg	tctgttgacg	gagctgctga	240
attagcttga	gggacagtga	ccggccagtg	ccctcatagc	cattgatggg	ggatgccatg	300
aaaacaagggt	aggggccaaag	taggctcttc	accaagggga	gggggatggc	ggcagcttca	360
tcaatcacaa	ctagttcagc	ctggcccagc	ttcacagcat	ctgcaggatg	tatatactga	420
atagtctggc	tgngtctcga	aatacattca	ctctgatcac	tgntttggta	aattcangaa	480
ttanagactg	gataatctca	taatccaaag	gttcctgaaa	nttgcanaac	attnaaatcc	540
nttnaatncc	aattcaaccc	aattttgang	ttttaanggc	tttgggagg	aaccaanaan	600
ttgggggtacc	ttggccggaa	cccccttaag	gggnaattca	gncacntggg	gggn	654

<210> 257
 <211> 594
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(594)
 <223> n = A,T,C or G

<400> 257

actgctcttt	tattacggta	atacttgcta	gtgggatttc	tctcttcacc	aaggctgcct	60
ttactgtgtg	aaggacctgt	cagtctggct	gcagccaagt	tggatggagt	cctcattcga	120
agacttgact	tagccatttc	atgatgttca	atttcagcct	ttttcatata	aaatattttt	180
ttaattgaat	ttgcacacct	gaatacttga	gagccaggct	cattataagt	tttggcattt	240
tttgcgagga	gatctatatc	tttggccatt	gcatgaatac	ttttgtagct	tccattctgt	300
atcctctggg	caatgggtctt	gagatctata	ggctccttaa	ttattgcata	ataatctgga	360
tattgcactt	tagaaggcaa	gtttctgaaa	aaagtcgcta	atgagacgtn	ctgatggatt	420
gnagctacca	ctatggcttc	aagaaactgc	ttcaggaact	ncttcaagta	agctggagaa	480
aaatcttnag	cactgggncc	tggatgggct	tggccatctt	catcaataac	ttcgncaatt	540
ggttctcntt	ttgaaccaac	ctcatntttg	gtccaaggna	ccttggncgg	gaac	594

<210> 258
 <211> 648
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(648)
 <223> n = A,T,C or G

<400> 258

cgagggtacct	tgctgtttat	tccttagtct	agcagcatcc	ttagtttgta	gtatatctta	60
cttagttgca	actaaaaaaaa	attgctagcc	taggctttaa	ctgggagttt	ctattatcta	120
gaagggtact	gtgaaccttt	cagaaaagtg	gaaagcaacc	aaaagagctg	tctcaaagac	180
tgtgtccccc	cagagtttgt	ccagctctta	ctgtagacac	tctgaacagg	cacgggtatc	240
tcatgtccaa	agctcataac	agcacattag	aagaaagtgg	ggagcctgtt	agaagcaggc	300
atattgatag	tgtgggagaa	gacatagcaa	attacttagc	agatatttta	aaaattttta	360
aatccaacag	cagtctgagg	caaatgattc	tgnataacct	agggtgana	gaatcacttt	420
atacatattt	ggatatagccc	tttcatttta	tgaaagtgtt	tacataccnn	agactngatc	480
ctataataat	accttatgaa	tatactttac	ttttcatcat	ggaaaatgtg	aatatactng	540
cntgatgggt	aagaagaagg	ccggagggtt	cctaccntnc	ntgaancctn	ccttaaaaaat	600
aatccnngtt	taaannngtg	ncttggnaaa	ttccttantt	tcccaaaa		648

<210> 259

<211> 224

<212> DNA

<213> Homo sapiens

<400> 259

ggtacttcaa	aaagaacatc	aggattaatg	ttcctcagag	tatgttctgc	tgcttgaact	60
ttactttaatc	ctgcttgatg	aggttggaag	aaaagtctat	tcatattggc	tagttccacc	120
ttgtcataat	caaagagtag	caacttacca	atgccacatc	ttgtcagcat	ttcagcagtc	180
acactaccta	ctccaccaac	acctactatt	gctacggcaa	aggt		224

<210> 260

<211> 584

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (584)

<223> n = A,T,C or G

<400> 260

ggtacttcaa	actctcttaa	cggatgatgt	ctgacattca	ctactacatt	tactctgcaa	60
gatgtatcca	atgacttttg	aataaatatt	gaagtttaca	gcttgggtgca	aaagaaagat	120
ccctcaggcc	ttgataagaa	gaaaaaaaca	tccaagtcca	aggctattac	tccaaagcga	180
ctcctcacat	ctataaccac	aaaaagcaac	attcattctt	cagtcatggc	cagtcacagg	240
ggtcttagtg	ctgtgcgaac	cagcaacttc	gcccttggtg	gatcttacac	attatcattg	300
tcttcagtag	gaaataactaa	gtttgttctg	gacaagggtc	cctttttatc	ttctttggaa	360
ggtcatattt	atttaaaaaat	aaaatgtcaa	gtgaattcca	gtgttgaaga	aagagggttt	420
ctaaccatat	tgaagaatgt	tagtgggttt	tggggccctg	ggcatcgaag	aatgggtgtg	480
ttcttttctg	ggaaactgna	taatcttaat	tggacttaat	ccagnatgat	gaagaaaccg	540
caggaattcc	cattnggaan	gggataaatc	tngcttaatt	ggan		584

<210> 261

<211> 526

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(526)

<223> n = A,T,C or G

<400> 261

ggtacttgat	gttctgcagc	ttctgaaagg	cttcctgata	ctgctcaggg	gtgtcaaggc	60
tgaagatgct	cttccacact	gcagtcaccc	tctccacgaa	agacccttcg	gtgcccgtgt	120
tccaagtgtg	gtaagaggag	gagcttttgc	cctctgaaag	ctgcttttcc	tccagatgcc	180
tggacagtag	ctccagaagg	caaaacacca	atctctgacc	ctgtagactt	tcatgcagct	240
gcagggcttc	ctgggctccc	acccagttgt	tggccagaag	cagctcttgg	gcacatctga	300
gagccaggga	agcagacaaac	tcatcctctc	ctacgatggc	agccaactct	gcagccgttc	360
taagtgatgc	cgcaccccc	tttttggcca	aaactttggc	tgcatacataa	gcacaagtgg	420
cccctaaata	gcatttggca	gctacagcat	agtggccatc	tctttctagg	acnggtcccc	480
agctgangna	cctgcccggc	gggcgcttct	aaanggcgaa	atcttg		526

<210> 262

<211> 703

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(703)

<223> n = A,T,C or G

<400> 262

cgaggtacag	aggctgcaag	aaggtggcat	agagggctga	aggtctgggt	ggcagggcca	60
ctcctttaat	aaaccaatgt	catgctcaca	ctcctattgc	ctaccttggc	atgctggatc	120
agctcacaga	tgcaggatca	agtcttgaaa	gccaatcaga	aaatccttca	taggcttaca	180
aaggaccacc	catggaacat	tgtttcccg	aagactgaaa	agacaaacta	caccaaccac	240
caccactctt	ctttttcctt	tttggcccca	tcaaaggaca	tggagaagg	agacaagttt	300
tcttatccct	actttttctaa	ctcgaggatt	ctccaaattt	acatcagcag	ctctaaggat	360
attcctcaca	ggtcacaaaac	tgaacccaaa	atgaaaatcc	tttctataaa	actacacatt	420
ctttattcat	acntatgact	aaaggctact	gaatgggnacc	tgccccggcc	ggccgttcga	480
aagggccaan	ttcaacacac	ttggccggnc	cgtactanac	ggaatccnaa	ctttgggacc	540
caagcttttg	cggtaatcca	tgggcccataa	gcttggttnc	ccggggggga	aaattggtat	600
tnccgnttac	caatttcccc	accaaccntt	cccaancccg	gaaaccntta	aaggggtaaa	660
anccttgagg	gggccccaaa	nggggtgggc	cttaacttcc	ann		703

<210> 263

<211> 475

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(475)

<223> n = A,T,C or G

<400> 263

ggtacttggt	agcttacccc	aaaataatac	ctggtatacc	ggacccaata	tctgctgatt	60
gatctaacct	aaatgaatac	aaaccatttc	agaaaaagat	atacaataga	ccacatatcc	120
aggtcatgaa	aattaaagct	ttcaggtcac	ctagcttagt	gactattgct	tttctgaccc	180
tagactcttg	aaagcctatt	taaactggcc	tctttctcca	cacccaaaact	gataaaaagg	240

agactgatta	tgagccagga	tttacacaga	gattctctat	ataaggcata	aaggtgaggg	300
gtgagagaga	gagagagaga	gagagagaga	gagagagaga	gagacgtgag	ggagggagag	360
aaaagagaac	agacngaaga	tnagagaaag	agaaaggtat	acagtctggn	gcctcaattc	420
cagtatgntg	atttggtctc	aacacccgng	tacctggccc	ggcnggccgn	tnгаа	475

<210> 264
 <211> 601
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(601)
 <223> n = A,T,C or G

<400> 264						
ggtactacaa	aaaccaagtg	ctcgattacc	acttaacatg	ttcagcttga	aatgactgct	60
acctttgcct	tcaattccct	cccacacacc	caggtataca	aatatctttt	ataccaagag	120
tccttgtgaa	agtaaataga	gggaactccc	agggataagg	gagggcaaaa	aacaggaagc	180
acttgaagcc	aaaatctgga	gcaactttta	agaaggaaga	gacgtccgtc	ctattttcat	240
atctctgcat	ggatctccca	tgagaaactt	gagttaaatg	taatgattac	acgtggcaga	300
aagacaactc	tctagcacag	tgtttctttc	acataggctg	ctacattcat	tccataagct	360
caacaatttt	aataaaaaat	atttctgcta	aatactttat	attcatcatc	ataaaaaatg	420
cacagccatt	tgaaaaaaan	ggcaattacc	ctaaatgaat	attgccccaa	gcacagatca	480
actttatata	nggattcttt	ccttggctctg	aaaaatcgca	ancggaactg	gcagacttta	540
tttaccaacc	atggattttg	nccagcatgg	agttaaattt	antgctgtct	ggagcaggaa	600
a						601

<210> 265
 <211> 643
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(643)
 <223> n = A,T,C or G

<400> 265						
actatgaaag	gcagggtttcc	ttgtctggag	gaaaagggtcc	ttgagacacc	acaggaaatt	60
cacaccgtaa	gcagcgaggc	tgctcagctt	ttggaagagg	tcatcactcc	ccggaaggac	120
ctgcctcctt	tactcctcaa	attgaatgag	aggcctgccc	aacgcctgga	ttacctgggt	180
gtttcctatg	gcttgacccc	caggctcctc	aagttctgga	aacgagctgg	atttgctcct	240
gtttatctga	gacagacccc	gaatgacctg	accggagagc	actcgtgcat	catgctgaag	300
acgctcactg	atgaggatga	ggctgaccag	ggaggctggc	ttgcagcctt	ctggaaagat	360
ttccgacggc	ggtcctacct	tgctctctac	cagttcaata	cctnggccgc	gaccacctta	420
gggcccattt	cacacactgg	cnggcgtact	aatggatcca	cttngttccc	aacttgccgt	480
aatcatggca	taactgggtc	ggngaaaatg	gtatccgtta	caattcccac	acatacaanc	540
cggaanntta	agtgtaannc	tggttgctaa	tgatgactac	ttnccttaatg	ngttggctac	600
tgccgtttca	tcgggaactt	ntgccattgn	tataatgcnc	ccc		643

<210> 266
 <211> 582

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(582)
<223> n = A,T,C or G

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<400> 266
actgtttacc agatctttgc agatgaggtg cttgggttcag gccagtttgg catcgtttat      60
ggaggaaaaac atagaaaagac tgggagggat gtggctatta aagtaattga taagatgaga      120
ttccccacaa aacaagaaag tcaactccgt aatgaagtgg ctattttaca gaatttgcac      180
catcctggga ttgtaaacct ggaatgtatg tttgaaaccc cagaacgagt ctttgtagta      240
atggaaaaagc tgcattggaga tatgttggaa atgattctat ccagtggaga aagtcggctt      300
ccagaacgaa ttactaaatt catggtcaca cagatacttg ttgctttgag gaatctgcat      360
tttaagaata ttgtgcaact tgatttaaag ccagaaaatg tgctgctttg catcaacaga      420
accatttcct caggtgaagc tgtgtgactt ttggattgca cgcattcatt gtgaaaagta      480
ttcaggagac tgtggaggac tccactacta nccctgaagt cttcgagcaa ngtaacacct      540
cctanaatgt ggcattggag tatattatgg anctatgccca tt                        582

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<210> 267
<211> 565
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(565)
<223> n = A,T,C or G

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<400> 267
actttgggag gctgaggcgg gcagatcaca aggtcaggag ttcgagtcce agcctggcca      60
atatggtgaa accctgtctc tactaaaaat gcaaaaatta gccaggcatg gtggtgcatg      120
cctggagtc cactacttg gggctgaagc agaatggctt gaccaggag gtggagggtg      180
cagtgaacca agatcatgcc atggcactcc aacctgggtg acagagcaag actccatctt      240
aaaaaaaaagt atactaatgt ccctcaagtt cttccatatg aggtaaaagg atccaagatt      300
aaggttgaaa ttcttaaact gttcaacaat tttgtggtgt catcaaaaaa ggaatatttc      360
atatatatta atttaacctc aatgatcaac attgttaaaa gtcagtatgg agaaagatca      420
ttctgacctc ttcagaaacc acctggtata tgaacattct gatcccanat tattttggga      480
nctaaggacn atggtgaaaa gaatcncnan attaaaagtt ctattttcna tggaccttng      540
gcccngaac acncttaagg gccna                        565

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<210> 268
<211> 661
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(661)
<223> n = A,T,C or G

<400> 268

cgaggtacta	caaaaaccaa	gtgctcgatt	accacttaac	atgttcagct	tgaaatgact	60
gctacctttg	ccttcaattc	cttcccacac	accaggtat	acaaatatct	tttatacca	120
gagtccttgt	gaaagtaaat	agaggggaact	cccagggata	agggagggca	aaaaacagga	180
agcacttgaa	gccaaaatct	ggagcaactt	ttaagaagga	agagacgtcc	gtcctatttt	240
catatctctg	catggatctc	ccatggagaa	cttgagttaa	atgtaatgat	tacaccgtgg	300
cagaaagaca	actctctagc	acagtgtttc	tttcacatag	gctgctacat	tcattccata	360
agctcaacaa	ttttaataaa	aaatatattt	gctaaatact	ttatatcatc	atcataaaaa	420
atgcacagcc	ttttgaaaaa	angggcanta	cccctaaatg	aatattgcca	agcacagatc	480
aacttatata	ggattctttc	cttgggttctg	aaaaatcgca	accgaactgg	cagactttaa	540
ttaacaacat	tgatttgggc	agcctggagt	tnaatttant	gcatgtcctg	gaggcnggan	600
aaatgatcca	gaagtaagca	ccaccgnctg	cnggggnccan	gttcaagaac	ttaagccngg	660
g						661

<210> 269
 <211> 643
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(643)
 <223> n = A,T,C or G

<400> 269						
actgatggga	aggccaatat	ttgatgcaat	caccacagtg	agggcagatg	ccagttcaat	60
actgaagcca	ctagagggtg	tgatcggtgt	cagatccttc	cccattggtc	ggataactct	120
tcttcccaa	acccacagac	caacacagat	accaaacca	ccatagagta	gaagccatat	180
tggtgttgcc	acttttgaag	aaacatctcc	tgtgccataa	accaaata	aagcaaccag	240
aggcccaatg	gcattgctta	cgctattgcc	accatgggcg	aatgacccaa	agcaggctgt	300
aaggatctgc	aggaactgga	aganggagag	agacttcagg	gcttatcctg	ggcataccat	360
tctttctaga	agaaccctta	ctttcttttc	tgncacctaa	acccatcttt	gnctttgcac	420
ttatggctat	cttaaaangc	tnaatgaaag	ncagacacng	cattgcagta	actgggggnac	480
tgncatttna	antcccttct	tggagctgna	ntaggcctgt	cacttctcat	ttcttngccn	540
ttggtaactt	ttttgnnecg	atgaatcnga	gnatgcncat	atgcntggat	tganntactn	600
tatggcctaa	gggtgnncgn	ggtcctcant	tcncttggan	aga		643

<210> 270
 <211> 650
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(650)
 <223> n = A,T,C or G

<400> 270						
gggccacatc	tgccagagcc	tggagtctgc	gaaggccggg	acccgggttc	ccggcccaca	60
gtgggggtgt	gcaaaccgga	gagaactggg	ttgcaaattc	gtgaagaatc	agcatcatgt	120
ttggcagctg	agtattggag	ccaggagcct	gccatgaggt	tttgagaaca	gagtgtgtgt	180
ttagagctgg	cagcagcatc	tcagcccaag	agaagggttat	attcccagag	gatgtcagtc	240
ccaaggacca	gtagctgcca	tcagtttgga	ttctgaaaac	taactggcat	caacactggg	300
tgtagaaaca	tgcttgccct	atgtatcaga	ggacatgctc	agcaagatcc	aagagatata	360

tttggcaact	ttttctagaa	aaggcacatt	gggtatcatt	cattacattc	ttgagttttt	420
ttgggttttt	tttttttttt	tgaacagtct	tgctgnattg	ccangctgga	atgtgggtggc	480
caatcacanc	ttattgcatc	ctaatacccc	aggcctaagc	aatcctcccc	ttganctggg	540
actanggtta	cagncacctg	gtaaaatttt	ttttgtgaac	ggntcttatg	tgccagctgg	600
nttaggttct	nggntnaang	gcctctgcta	nnttcaaggc	nagccatttg		650

<210> 271
 <211> 620
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(620)
 <223> n = A,T,C or G

<400> 271						
ggtagacag	tcccaagctc	tttaaggagc	ccagtagtaa	atcaaacaag	ccgattattc	60
acaatgccat	atccccattgc	tgccctggctg	gaaaaagtga	cgaaccccac	aagaattcca	120
tattggagga	gctggagaag	tgtgatgcca	atcactacat	catactgttt	cgtgatgctg	180
gctgccagtt	cagggcgctt	tactgtact	atcctgatac	tgaggaaatc	tacaaactca	240
ctggcacggg	gccaaagaac	atcaccaaga	aaatgatcga	caaactgtat	aaatacacgt	300
cagaccgaaa	acagtttaac	ttgatcccag	ccaaaaccat	gtctgtcagt	gtggacgcac	360
tcacaatcca	caaccacctg	tggnanccaa	cggntctgcat	gccaagaagg	ccaaactcgt	420
aatgaccggg	tgcaactggcg	tccaagggtg	accagactcg	taaatgatgc	cttgtgggtg	480
atcaaagggtg	cacggggggc	tanttantgg	ttanctattt	ggctctgccg	gcngggcgtn	540
aaaggggaatt	caccactggg	ggcgtctaag	gaccacttgn	ccacttgnga	anatggntan	600
gttctnggga	aanttcccn					620

<210> 272
 <211> 670
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(670)
 <223> n = A,T,C or G

<400> 272						
cgaggtactt	tatattacta	aatgtctgaa	gacaaaagag	caattggaaa	tctctgtttc	60
ttgttttcgtc	atacatagga	aggcgacgtg	atgcaaattt	taacacaaga	ttttattaaa	120
gacggggcaaa	ttggtgaggg	atacctgaat	ttctggagat	atacaaatgc	gtgaggctgg	180
catcatatgc	aaatgtggct	ttacaaattg	gtttttattt	ctagctgtat	ttaaagaggt	240
gttcaaaaatt	ccctactaat	caagaagcac	ccctgaaaaa	actatgagat	aagatagtgt	300
tattaatggg	ttgcatctaa	agaccaggaa	acacattagc	caatacagtc	cacaatcggt	360
gaaatgctgc	cgtgcnaaat	gcacgtgcat	atgcnttttt	actatattcc	ctnagagacc	420
gtaaaacaac	naccaccacc	aaaaaaaaac	ngtgcctcnta	aatngngggac	naacctttcc	480
aaaccaccgn	cttactctta	ctgggggttta	aggggaattca	ggaagcttcn	tttanccana	540
aagctnaacc	ccttcagtgc	ataanccttt	nccttggaat	aaggcctgnt	ntggctacct	600
aaaaccaagt	ctggggggaaa	aggactcatt	ccattattaa	cnnttacncc	taagggganga	660
ataaggggnt						670

<210> 273
 <211> 688
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(688)
 <223> n = A,T,C or G

<400> 273

acacaggtaa	ccttatgcag	cacattgtgc	taaaagtatg	gaacagttaa	cactttcagc	60
cattactgaa	aataaacatg	tagaaactaa	gcaacaagtt	aaaatacagt	aatgcacaac	120
ttaacaattt	taagttttcc	acatggagca	ataaagcagg	taactgaata	atttaaggag	180
atgcaaatgg	ccctcttcat	tcttaattct	cggcaattta	ctcaggaaaa	taaatttctg	240
gtcgcagccc	gaacagttcc	agtccgatct	caccttgatg	gaaagtcttc	attatctgtg	300
cttgcccag	gacttatgaa	tgnttcttct	ctttcttttc	ttctgaactg	gccccgttct	360
ctttcttttc	tatcctttct	ttatcatgcc	tggaactcct	ttggcaccgc	aaggagaatt	420
taaccatctt	ctcagaatta	aatggaatca	ctggcttttt	cnttggcctg	aagaatttga	480
cttanttttt	tncttggtct	tctcaattng	attaagggga	ttcnccaagg	acttttactt	540
ttaagggtttt	gnaaacccca	atnggtncat	tcttccccct	taccgctctt	gggttaaanc	600
ccgggggggac	tttaccgggc	cttggttgaa	ngaaccntt	ttcgggtctt	tcngggcctt	660
ttaacttttt	ctcncctttn	ctgggagn				688

<210> 274
 <211> 674
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(674)
 <223> n = A,T,C or G

<400> 274

atntaaacct	ggtttggata	tgcgctgtga	tgagggaagat	gatttggacc	ggtttagagca	60
gatggaagat	tcagaagggga	cagtgaagaca	gataggtgca	ttctctgaag	gcatcaacaa	120
tctgacgcac	atgttaaaaag	aagatgacat	gtttaaagat	tttgctgccc	gttccccccag	180
tgccagcatt	acagatgaag	actcaaactg	ttgaccgtag	cacctggatg	aacatttagga	240
gtgcttagtc	ttttttctac	ttgcttttcc	aaacactcac	agtatataca	acaggcagcg	300
gattgnctat	tgnttggtgn	tccaacttct	gctgccagaa	gtttaaacag	aaagcaggaa	360
taatgtgccc	attctgaagt	tgccacaaaa	aataagaccc	tggtgaatga	aaatataatt	420
ggttttcttc	taattaatgg	aaaaatctgg	gatataattat	atntaaagg	gggtgcattta	480
aagaatgagt	atnttaccct	gaagtgggtc	ccttcatatt	ccccggattg	aaggatttga	540
nggaccgtac	cnggatgggn	atgaatttgg	tacttcatgg	tcacttgaac	ccnctaagtn	600
ggcctntttt	ggattcanaa	tcatatgggg	aacttcttta	agccttcagg	ggcnccttaa	660
tgccnnncca	cctn					674

<210> 275
 <211> 638
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(638)
 <223> n = A,T,C or G

<400> 275

ggtactggca	tggcaccaac	atttgctcag	cttctgggtga	gggcctcagg	aagcttacag	60
taaaggcgga	aggtgaaggg	ggagcaggca	tatcacatgg	cgagaaagag	gggagaggtc	120
tcagactctt	ttaaacaacc	atatctatgt	gaattgagtg	agaactcact	catcaccaag	180
gagatgggtgc	tgagccattc	atgaaggatc	ccctctcatg	atccaaatac	ttcccaccag	240
gctccacttc	caacactggg	aattacattt	caacatgaga	tttggagggg	acgagcatcc	300
aaaccataatc	agatgggtgag	acaggagaac	tttgtgtgtc	cagctgcact	ggctctgaaga	360
tataactaag	tccctggact	ttttctcctt	aattggagaa	ttcctaattgt	tcattgatcag	420
cctgantgac	cagtggctga	ctggcctgaa	agggggagata	aaacngacca	cagctttctt	480
catagaccaa	tttaaccttt	attcatctgn	gcagcagaag	ggactgggcc	anatanccat	540
caggtaggng	cttgaatatg	ggtactttcc	nanatacttg	ccggccggcc	ntttaaggca	600
attccaccaa	tggggccgctc	tannnggatcc	actcggnc			638

<210> 276
 <211> 638
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(638)
 <223> n = A,T,C or G

<400> 276

ggtacgtcag	atctacagcg	aacacaacta	ctgccgcctt	atcctctaaa	tggggagcat	60
acccaggccg	gaactgccat	gtccagagct	aggagagagg	acctgccttc	tctgagaaag	120
gaggaaagct	gcctactaca	gagggctaca	ggtggactca	cagatgggct	aggagatgcc	180
tcccaactcc	ccgttgctcc	cactggggac	cagccatgcc	aggccttgcc	cctactgtcc	240
tcccaaacct	cagtagctga	gagattagtg	gagcagcctc	agttgcatcc	ggatgttaga	300
actgaatgtg	agtctggcac	cacttccttg	gaaaagtgat	gatgaggagc	aaggaccac	360
cgttcctgca	gacaatggc	ccattcccgc	tctagtggga	gatgatnntt	agagaaagga	420
ctggcccagc	tcttgcatgc	atccactatg	aaggatcctg	taatgtgacc	ccagttccac	480
actgatctca	ccgctgatgc	tgcagaacag	anatttgatg	acgaataggc	ttggngntta	540
tgccctctatg	aggaaagtat	ctngacnaga	aacttgaaac	cangnttntg	tttacagtct	600
ttgatggctc	atcatcatga	nnngatgaac	gcccaaccg			638

<210> 277
 <211> 734
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(734)
 <223> n = A,T,C or G

<400> 277

ggtacagaga	tagatgaatg	gaaatgggta	aggagaggtg	tcattcacat	ccatctaact	60
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gcaaaaataca	aaagtaagaa	gtcattgaca	tgaagcaacg	acgaccaaga	cggttctcaga	120
tctaaagggtg	aatgatctca	gtcagcctgg	aaatgcacaa	ggtggaaaaa	taacataaaa	180
aagccataaag	accttgaaga	acatcaatgt	caaagataaa	ttctaaagtc	ccagagaaaa	240
aagaatggga	atcaaattga	cctcagacta	tacgtgagaa	acacggagag	ccagaaaact	300
gtgatgttcc	atcctcagag	tttgaaggaa	atatttgaag	gctgaatttt	acatccagct	360
taactatcaa	ggcatgccaa	gtcatgttat	tcttaggcct	tcaaggncct	ngcccttttt	420
ctcngaaaaag	cccgaatttn	aaatgctctt	aaagaccgtt	cttcaacecn	gaagagaaaa	480
gaaanccngg	ganggggtgct	cttgagatat	ttcagtcncc	cacaggttnc	ccaaatnggg	540
cctaaggaaa	ttccgaagag	gtcncgaaat	nttnacccat	taccttcccc	caatngggga	600
accccccgac	agggntttan	ccatnggggt	taaaggggtt	ttgacccggg	ggggccttgg	660
caaggtancc	tggccccggg	cgggcccctt	cnaaangggc	caaanttcen	gncccccttg	720
ggggggcccg	tanc					734

<210> 278
 <211> 586
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(586)
 <223> n = A,T,C or G

<400> 278						
acatggtgaa	tggaccacca	cattttacag	aaagcacagt	gtttccaagg	gaatctggga	60
agaattgcaa	agtctgtatc	tttagtaagg	atgggacctt	gtttgcctgg	ggcaatggag	120
aaaaagtaaa	tattatcagt	gtcactaaca	agggactact	gcactccttc	gacctcctga	180
aggcagtttg	ccttgaattc	tcacccaaaa	atactgtcct	ggcaacgtgg	cagccttaca	240
ctactttctaa	agatggcaca	gctgggatac	ccaacctaca	actttatgat	gtgaaaactg	300
ggacatgttt	gaaatctttc	atccagaaaa	aaatgcaaaa	ttggtgtcca	tcctggctag	360
aagatgaaac	tctttgtgcc	cgcaatgtta	acaatgaagt	tcacttcttt	gaaaaccacc	420
aattttaaca	caattgccaa	ataaantgca	tttgccaaaa	attaatgact	ttggattatc	480
accctggacc	ccaaccatac	caaggtggct	ggctatgttn	ccaggaagtn	aangngcccc	540
cttatttggg	agaatatatc	agtancttgg	gcgggaacac	ccttan		586

<210> 279
 <211> 664
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(664)
 <223> n = A,T,C or G

<400> 279						
accaccgagg	ctagcacagt	caagcctcca	gctaagctgg	atccctgaag	cctgctatca	60
tgcagacagg	ctatgcggct	gcctcggacc	atgctaggcc	acttgctggg	gtgtcaacct	120
accaccaaag	gggtctttta	gcaaacctca	tggggaacag	gaacattcct	gttcatccct	180
ggccacaggc	tgcagaccca	gcactggccc	ttgcgtgagt	cagagcctgg	ggctggccct	240
agcccccttct	actgacttcc	tcattttaagc	caattatata	agctcacatt	gatcaggagg	300
ggagggaaaag	agctaaagag	ggtcacacaa	gtggctatct	tccctgcagt	gtttctgtgt	360
ggtgaaaata	accaggtcca	ctaagggggc	ggagtgaatg	gatggctgga	ttttccccaa	420

gctccttata	gcctaattgtt	gtcaggatgt	gagtatgagg	aatttagcct	cttataagtga	480
aatgagtcca	actctgggct	ttgcttanan	gaaagctncc	gtcaggcttn	ctataatatg	540
aaaagaagtc	accattgggg	aactagagac	cccagacctt	ttcatatgga	tatttgagaa	600
tgtaatgcat	ntangcctng	tgctggaact	ttaggcctnt	aggcnggtta	aaacacttga	660
tttt						664

<210> 280
 <211> 448
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(448)
 <223> n = A,T,C or G

<400> 280						
actaccacag	actgttgact	tttagtttct	taaagagaaa	aattgccttt	ttactagaaa	60
gcctttgtat	attgcaattt	ttctgtttgg	gaaaatctaa	ggatttactg	tggttagtct	120
tacagaagaa	atgtggattt	gataaactag	tgccatgat	tttaacttat	gtttgatata	180
tagtagtaag	ggttttatga	atgttgatta	ttttgtgcc	acagcccaga	attgtcactt	240
atatgtaagc	agaaaacaat	gagctctgct	tccaaagtta	tttaattttc	tcagtgtttg	300
aatgtttattt	tttgtaagt	tgtaataaaa	agtgtaaaga	attggaaaaa	atataaatat	360
tcttaactca	agcatttgc	ggatcatttt	tctacaaaac	ttggttgtac	tgngaacctg	420
tgatcancg	ttgtgtaaac	ctagtacc				448

<210> 281
 <211> 677
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(677)
 <223> n = A,T,C or G

<400> 281						
gcgtggcgcg	gcccagggt	caccttcaca	gggaatccgc	aggcggggat	cttcagtctc	60
ctttaacacc	ggaaagtatc	aacgggacag	atgatgaaag	aacacctgat	gtgacacaga	120
actcagagcc	aagggctgaa	ccaactcaga	atgcattgcc	attttcacat	agttcagcaa	180
tcagcaaaca	ttgggaggct	gaactggcta	ccctcaaagg	aaataatgcc	aaactcactg	240
cagccctgct	ggagtccact	gccaatgtga	aacaatggaa	acagcaactt	gctgcctatc	300
aagaggaagc	agaacgtctg	cacaagcggg	taatttcagg	gctgatgtct	atagggattt	360
agggctaaca	ggttttcttg	atcagaagaa	attttgcatt	tagattcagc	acagggatat	420
cttctagttc	taggatgtca	gaacatagat	atgggttgna	tgatatgcat	ttggttgatt	480
aagaaaaata	ttttccatag	tttaatgaga	atgaagaata	tacccttttg	aagcaacaaa	540
ncatgtgatt	cccatattat	catggggcta	gngtatgcnc	agtcctgccc	ggcggcgtaa	600
ggcaatcagn	cctggngccg	tctnnggacc	acttggccac	tgngnacagg	caactgtctg	660
ggaatgncct	ccatccc					677

<210> 282
 <211> 691
 <212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(691)

<223> n = A,T,C or G

<400> 282

cgaggtacct	tgctgtttat	tccttagtct	agcagcatcc	ttagtttgta	gtatatctta	60
cttagttgca	actaaaaaaaa	attgctagcc	taggctttaa	ctgggagttt	ctattatcta	120
gaagggtact	gtgaaccttt	cagaaaagt	gaaagcaacc	aaaagagctg	tctcaaagac	180
tgtgtccccc	cagagtttgt	ccagctctta	ctgtagacac	tctgaacagg	cacggttatc	240
tcatgtccaa	agctcataac	agcacattag	aagaaaagtgg	ggagcctgtt	agaagcaggc	300
atattgatag	tgtgggagaa	gacatagcaa	attacttagc	agatatttta	aaaattttta	360
aatccaacag	cagtctgagg	caaatgattc	tgtataacct	agggctgaga	gaatcacttt	420
ataacatatt	tgntatagcc	ctttacattt	tatgaagtgn	tttacataca	tcagagctgg	480
atcttataat	aatacattat	gaatataact	ttaacttttc	atcatgaaaa	tgtgaattat	540
actgacctga	tgttaagaan	aangccgga	ggtttctaac	atacctgaaa	tctcccttaa	600
aataattcca	ggtttaaaang	tggncttgga	aanttcctta	ctttccaaaa	tntatgacct	660
gccgggggcn	ntnnaaggng	aatccnnct	n			691

<210> 283

<211> 668

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(668)

<223> n = A,T,C or G

<400> 283

acatggttct	gtgacatggc	tggaggtggg	cgttctggac	aagtaaaca	tttactgggg	60
agggtgtctgt	gtttcacact	taggtcgcta	agtttttagc	caaggcttta	gttgcctcc	120
atgagcaatt	gtagaaattg	gaaatttgta	atgatttttt	atgagaaagg	ccacgaatgt	180
gtgttactat	tagagtatat	ccacatattg	tccagtcagt	gaaaatggcc	taaaagataa	240
tttacctgca	aaacagaata	ttatgcagct	attaaaataa	tgcataatgaa	gatttgccat	300
agagtggaaa	aatgcttggt	aggtaaaaat	caaaaaaaca	tgtaggaaac	aaaattttac	360
atatttgatc	tccactgtat	aaataaataa	aatggagaaa	catttgagaa	aaatcatcca	420
ataatgggtg	tctgtgggtg	gtaaaagcaa	ttgaaatgtc	ttccttacac	ttttaataat	480
ttttaaaaag	tatgtaaaat	gccaattatg	acaatgctaa	gctagatgaa	catcccatcc	540
aaattggaag	cccattttaa	atttagaaag	cncggttgga	ttcccttctc	tatccttttt	600
taaagcaaat	ggcccannc	tgngnnttt	ttgacccaac	ctttcaaaat	tnggctaact	660
ttntgaat						668

<210> 284

<211> 777

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(777)

<223> n = A,T,C or G

<400> 284

acagtatttta	agggatttttc	cttttagctt	ttcatctcca	gtggcattaa	acataaaaaag	60
accctggcat	tttttcacat	acttgaatcc	ctaaatgcac	ctgtctttca	ctttttgaga	120
cagactgaat	atatctaaaa	tttccagcaa	taaaaaaaaa	gcattttaact	tgaccaaacg	180
aagaaaaatat	aaatacagtt	aactgcatta	agataatcac	gttaaaaattg	ttactatgca	240
gcacagaact	tcattcttat	agtattcttg	ggttcaacct	ttgaatcaat	tttaccactg	300
attaaataaa	tgactcaaag	acatctgtaa	gtcatgctgc	tgtgttttga	aagtcttttaa	360
ctaaattaag	aatgcagaat	ggatagtgat	tattcaatta	gaatttaagt	aaggggatgg	420
tgatantana	aggctggaaa	atnccttaat	ttttaaaaaa	atcagaatag	gcntttaaat	480
aggtaaaatc	actttcaatt	nttccccaaa	acctgnangt	ttcccggaaa	aaagggtttta	540
aggctttnaa	ggtgggggaat	gncccaaggt	ttttaactta	tnccatggaa	gccanngcct	600
tgcatggggn	ccttagggna	acccccngaa	tcccnttccc	aaaagggggg	tttaccctnt	660
tgggaattnaa	tttggggnaa	ccttattngg	nccttngggg	nttaccttng	gaaanaaaaat	720
ttnnttttta	atnntttcan	ggggngngaa	atttaaaggc	cttttttttt	gggaaaa	777

<210> 285

<211> 692

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(692)

<223> n = A,T,C or G

<400> 285

ggtacaagct	tttttttttt	tttttttttt	tttttttttt	aaggatttac	ttttcttaac	60
aagtgaacaa	tttgcttcta	agcgtcaatg	aaaggcaaca	cctccctnta	atggccaaag	120
gaagagagtg	gcagtaagct	ggcttttcca	atgngtcaca	caatccttca	tgccattaag	180
ttctccttgt	tggaaaaagaa	attaggttgt	tttgataact	tagaaaagtt	agtttttagac	240
aacagtgact	ttcagctaca	aatacaaaaat	caaatccatg	tatataaggg	ttctgtaatc	300
gatgtcttag	aggaacatct	gctcattttc	tccaagcccc	agtcctataa	atcaaggcaa	360
gtcaagtaat	taagcttcaa	ctattttggc	agctttgcaa	ttaaaatgag	cnaagcacta	420
tatctatcct	tcataatcngg	atatattaaa	ggtccaactt	ggtacnccca	atnttacatg	480
ccgagaggcc	taaaatttnc	nntttgggtt	ccnggtttta	ttaaagncca	taanggnctt	540
gcnacnaate	tttttcccct	ncccaaggga	aatttccttc	nnattaccaa	accctgnct	600
caattttntt	ccccggnaat	ttgaaaggcc	gggtttntcc	tttcaaaaana	aattttcccc	660
ggggattaan	atttggggcc	caattttctta	nn			692

<210> 286

<211> 709

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(709)

<223> n = A,T,C or G

<400> 286

actgtgccag	ggatattgag	atgctctggg	ggtgtattgt	atacctgcc	gtttttcttca	60
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tttctgaatt	gagttttctt	ttcttgatgt	tggtttcctt	catatcacct	caaggtttag	120
atattgtgaag	gaataagcat	gatggaaata	atagtcttga	aaggagatat	gttgatatata	180
atcaggagga	agaggaagga	aggacttacc	catttttgata	ttttgctgta	ggtggccagt	240
tttgtttctc	atagggaaat	ctgaccacc	tgtcatgttg	gctcctaagg	aactgctgtt	300
gtaagcggct	catcaagagt	tgaacttcac	gtagccttgt	tgggaatatg	gaaaaggaag	360
aaagccacag	gactgcccac	tcagtcttgg	gaagattggg	atgattctgc	acaagcaaaa	420
atgactgaag	tttatgtata	gacacacctc	taccaatcca	tcttcagctg	actgaatgtt	480
gnatgatacc	cttcttcaaa	gcagangtag	aatggtcang	gttcacccat	ggaattttct	540
acttaatttc	gtttttngga	atcaacttta	ccnnaatncc	aggteccctt	tnggaaaaaa	600
tccttaaate	ttttgctttt	ttnaaaaaat	aanttnnggt	catanttaaa	ggcccttggn	660
ttaanccang	gttnnnggtn	ccnattttatt	tgaacccttt	gcccttana		709

<210> 287

<211> 231

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(231)

<223> n = A,T,C or G

<400> 287

acaagctttt	ttttttttt	ttttttttt	ttttgtanag	atgcgggtct	cactatgttg	60
cccaggctgg	tctcaaactc	ctgggctcag	gttctcctcc	tgcctgggccc	tcccaaagtg	120
ctgacatcac	aggcgtgagc	caccacaccc	agcccctttg	ggtgttttta	aatataactt	180
tggcatttat	aacaaatgca	accacatgtt	anatcttatt	agaagtacct	n	231

<210> 288

<211> 681

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(681)

<223> n = A,T,C or G

<400> 288

accctctctt	ccagcaccca	ggccagtatt	gagatcgatt	ctctctatga	aggaatcgac	60
ttctataacct	ccattaccgc	tgccccgattt	gaagaactga	atgctgacct	gttccgtggc	120
accctggacc	cagtagagaa	agccccttcga	gatgccaaac	tagacaagtc	acagattcat	180
gatattgtcc	tggttgggtgg	ttctactcgt	atccccaaga	ttcagaagct	tctccaagac	240
ttcttcaatg	gaaaagaact	gaataagagc	atcaaccctg	atgaagctgt	tgcttatggt	300
gcagctgtcc	aggcagccat	cttgtctgga	gacaagtctg	agaatgttca	agatttgctg	360
ctcttgggatg	tcactcctct	ttcccttggt	attgaaactg	ntggtggagt	catgactgcc	420
tcatacaagcg	taataaccacc	attcctacca	agcagaccag	accttnacta	cctatctgac	480
accagcctgg	ngngcttaat	canggttatg	aaaggcaaac	gtgccatgac	caangataca	540
acctgggtttg	gcaaggttga	aactacaggc	ttacctntgg	accccgaggg	gtccctnaaaa	600
tgaagtcctt	ttgacattga	gcccaggggt	actcaaggnt	ttgttnngga	aaaancttgg	660
ccggaaccct	angggaattn	n				681

<210> 289

<211> 565
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(565)
 <223> n = A,T,C or G

<400> 289
 actcaaccta acttatagtt agcagctgga attctcaact cttccctgcc agcactatac 60
 cacagtgtgg aagaaattag tcaaatgctt gttttcctgc ttctcttttc agctgttact 120
 gtgctttgtt tgaaagtagt tttctctctc aaagccgttg cttatatcgt taagaatgaa 180
 gggtttgtgtt taaaatttat tgcattgcaa agggtagttt cactgaagtc atgcaccatt 240
 aaataagatg aaatatattgt atttattgtc ctacttccta agccgtaact tcttttcctc 300
 tgtgaatttg cattgagtca ctcatgctac actacatcgc tttagtattt gagatggcat 360
 ttatgttttc tctcgtttat catgaaatgg ggtcagattc catcagattc cacctctgtc 420
 aggtggactc ttgtctgcct tccatgatga gatttttttt tctccttccc tttctttaag 480
 agaggctgcn gaactangng gcaatcaatt tggnaaccag tctctggntt tttttcatta 540
 gtaatttcta tcatagttca ctggg 565

<210> 290
 <211> 699
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(699)
 <223> n = A,T,C or G

<400> 290
 ggtacacaat tctgcatttc tctcttggtt atgggatccc agttttattg caggaggcag 60
 tgtgccagtc tcagtagatg gaacacgatt ggtctattca gccatgacaa ttctgttccc 120
 tgctgtctta gctttgtttg cagctagagg tgcaatggta gctggctcgg gccaagggca 180
 tctaagtga gatatgcaga gggagagagc aggaaacaga cttctgacga ggttttactt 240
 tctgatagaa ggtgacaggt ccagctagtt tggcccttcc tcttcctcca cccctccttc 300
 cttgaacgca gacatgattc ttgggggatac agcagccatc ttgggaccat gaagtaacga 360
 gcactgagat taaggcaaaa ggatcaagac gtgacccta ccttcgtgga gttggtgaac 420
 caataccatt aaccacacca tctccagaat ccatgctatg tggnaaaaca atcttctggt 480
 tggttaaacc actgnaattc aaggtttncn ttncctgcaa ctgaatggaa gnccttttta 540
 naaggtacct tgaccaaaat gccnaaggaa ncttggcctt tggaaattgg anccccgnaan 600
 acctgggttt ttaagcccat tttggcnnn tttnggnaag ctttaagggt aaggcctgaa 660
 cctttggccn aaagggggna actnggggtc cccctttcc 699

<210> 291
 <211> 699
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(699)

<223> n = A,T,C or G

<400> 291

ggtacttggg	gacttcaggc	atacagcctg	tccagaatat	ggctatccta	ctctcctact	60
cagaaagaga	tctgtccct	ggaggctgta	atgttgagtt	cgatttagat	attgatccca	120
acattttact	ggagtataat	ttctttgaaa	cgactatcaa	gtttgcccc	gcaaaccctag	180
gctatgagag	aggcgtagat	ccccaccat	gtgacgctgg	gacagaccag	gactccaggt	240
ggaggttgca	gtatgatgtc	tatcagtatt	ttctgcctga	gaatgacctc	actgaggaga	300
tgttgctgaa	gcctctgcag	aggatgggtc	gtgtgcccc	ggatgaaggcc	agtgtctctca	360
aggtgggttac	cctaacagct	aatgataaga	ccagtgtttc	cttctctcct	tccnggacaa	420
gggtgcatat	accatgtcat	tggttggggac	ccggttctaa	atcatctgct	ggctacattc	480
ctgntnacac	atacccttgc	aactttgang	cnngaaaagg	taagtggggc	cttcctaagg	540
aaaaggncct	tccaaggggt	cntcaatctt	tttgncccgg	ntnggntnct	tnaattgggt	600
ntttggaccc	cnaatttggg	aaaccgaaat	attnttnana	ggctttannn	nnggggaann	660
tntttnaaaa	ccggnctcnn	nantggccct	ttnaggttn			699

<210> 292

<211> 688

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(688)

<223> n = A,T,C or G

<400> 292

acagtcaccc	cactacctgg	ctattttcatt	acttggtgct	ctagacaagc	tcccaagaac	60
tgactggatc	ttggcttggt	ctgtttctgt	cattgctaata	ataatatgga	aaacattgct	120
gaaaagaaca	gagatggcca	tggatatggc	taggttaggt	attcatatcc	aaatatctga	180
actctaacct	aatgtggata	tgattctgta	gcattatatt	aaaagctatg	atgatgcaat	240
gcaggaaata	acctttcatt	ctccccctta	gaggatcacg	acaggtgctt	caatgcctgc	300
cttatctatg	ggacagtagt	gtgattctca	gtgagaagtg	aaggcctttg	gggatttgag	360
tcaggaaagg	gaacatggct	aagtgcctgg	aaactctggc	aacagtctgc	gggtagaatc	420
tacttggcct	ctggataaga	aaatctgtgc	ttcantgaac	ttaagnggtt	tgggaaaatt	480
taaccacagaa	ttttnnanga	agcataagtn	cctgggttcaa	ganaaccagc	ttacggaaca	540
tgcacattct	taacatangc	aacctttggc	caatnaatcc	catnggatgg	cccccttaag	600
ggaaagccat	tttgggttct	tggatcccaa	cnttttaagt	tcaaactttt	tttttaagnt	660
tttagntcct	nggcccttt	agnaagggn				688

<210> 293

<211> 572

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(572)

<223> n = A,T,C or G

<400> 293

ggtactgctc	tgctaggcca	gtgacaaatg	gccatcagag	atgtggctcg	ggtcagcatt	60
gtccttctctg	gtgcaggcca	tggtttttatc	agagcactga	ccaccctgtg	gcactgtaac	120

aggtgaccat	aggagacttg	tgcttgagga	acttggggcc	actgtggtag	gaacagcagg	180
ggttctggaa	atggacacta	atcctaggat	tggaaccccg	gcttgctgtc	tgctctctgg	240
gtgtctcagc	ctgtctccca	cctgcctggg	actgttttct	cttgggtgga	ttgggaagct	300
catgtgtggc	ctcatctcac	ggggtgaggt	gaagactcaa	tgaggcacta	cctgggttcc	360
acgggggtgtc	ccccgtgggt	ctctccccc	gggtgtccct	gccccctgtg	caagccagtt	420
tctgtgaat	taccagcca	gctttgcca	accacctgac	tttccttcag	aagacttcag	480
gcngaaaaaac	agggttaaag	acctaccctt	tetgaacttg	gttcantgct	antgcanaac	540
caagtccttc	acaancttag	gatcctatag	gt			572

<210> 294
 <211> 692
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(692)
 <223> n = A,T,C or G

<400> 294						
acttcacaag	tgtatgaaaa	tgatgtgacg	ttaacggctg	ataaaggcaa	aacagaggac	60
actttcttca	tgagcaacaa	accccaaaga	tacaaagaca	agctaccaga	tagtggtgat	120
tctatgctta	ggatcagcac	cattgcttca	gccattgcag	agggatcagt	taatactgat	180
ccttcccaac	ttgctgcaat	gatcaaggca	ctttcaaata	aaaccagaga	caagactttt	240
caggaagatg	agaaacaaaa	ggactattct	catgtgcgtc	atttcttacc	taatgattta	300
gaaaaaagta	atggatccaa	tgcacttgat	atggagaaat	accttaaaaa	aacagaagtt	360
agtagatag	aaagtgcatt	ggaaaacttt	tcaagggcta	gtatgtctga	tacttgggat	420
ttatctttgc	caaagaacaa	actactcaag	acattcattc	cgggtggactt	aagtgtctta	480
gtggnaatgt	gaaggcccn	gaagaaaacn	cagcagctat	tgttatggtg	aaaatggnga	540
gagtgagaat	caagaggcnt	ttagaancct	aaacttctca	aatccgggtc	caattgagag	600
aatacngggc	cntanttgat	gggaaaactg	tccnttgcac	caattccaga	agtnggaccc	660
atnaaaactn	cctaatttcc	ctccnttggg	gg			692

<210> 295
 <211> 459
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(459)
 <223> n = A,T,C or G

<400> 295						
cgaggtacaa	tgcaacaaaa	tacaaaatac	atgcttggtg	aacattcggt	catatctaca	60
agacggcagc	tagagattag	gtttcaatac	tgaccattta	ctatcctaca	agcaattagc	120
attacatcat	aatatgccat	caaggcaact	ttttttat	tgaaaaaatc	aaaataaaaa	180
ccgttatattg	taaactttta	tacgaaatgt	aactcttcaa	gtggaaataa	aaaataaaaat	240
ttgtctatatt	actattgaat	acacatagga	tttcaatttt	cattataccg	agaaaaaagc	300
tcttttgtgt	tggaataata	atgcttcaaa	aaataattag	tagaaaaacc	cactagtata	360
atgntttgcc	tttcaatgcc	agcacagatt	tggaacata	ctgaggatga	aagttataga	420
cattcacagg	tgaaatgtcc	tgccnggcgg	ccgtcgaaa			459

<210> 296
 <211> 677
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(677)
 <223> n = A,T,C or G

<400> 296
 taaagactac ctacacatag atatatgatt ccaaagtcac actttctcca tccccacatt 60
 agccaagtga atacagggcc aaatgggttc ttggaatgat aataacaaag cattacaaag 120
 tgggtcccct tgggtccagc cttgtccaga gtttttggtt atatatctct atttattaca 180
 atttaccttt taaattgtaa aataaacctt tgtgtggaca gagccaatgt ttcaatcttg 240
 aatgagtaaa gaaaatactt tgggaactgat cctcattttg aaattgggtc taaattatta 300
 tccatttcca atgtctgaaa ttctcttact tcctgctaaa actctcttcc tgccaaagtt 360
 gtttcgtaat ctgtctcaat gactataatg taaaattaaa gaagtaacca tgcttctcaa 420
 ggggggaatt aaaagtgggt aatggatttt actcaggcta attgggtggg cagaaattcc 480
 taaggccaca gctttngggg ggtccgtgta natgtccagg anggcagnga cattagtctc 540
 ttcttntgnt aatcccaaaa cttagaaacc nataatctta ccctggcatt tcctttntaa 600
 aatggccagg ccnttggggg ggaccttggc cggaccccct tanggggaat ccnccactgg 660
 gggccgtctt agggann 677

<210> 297
 <211> 574
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(574)
 <223> n = A,T,C or G

<400> 297
 accgtgggtg tagaatgatt gttatgtact gcagacaaaa tctgctttta gaggcaagcg 60
 gattttctgac aaagtaactg atcctttgga tggcataaat tcactttggg gactagcctt 120
 attcttctct tgaggtcctt cgttcttcaa tttattcaat tcatcaatca aaagtgttct 180
 cttcccagtt gcaattagaa gaagtcttcc tgcttcagct tcttctaggg acccttttcc 240
 atgttcttca tcaacacagc agttaagagc ctggctagct tgatagatca ctgtctgttg 300
 catatttatt tcgttattga gttcctgcat tttctgtttg atattaactt gacaaggaaa 360
 ggcattattt ttttcatcca gttttgaagt aacatcttcc ttccgaacaa tcacctgctt 420
 tattgatgga cgttctgntt ctttgaatct ttgagatcta tatgcatcaa tgctgtaaag 480
 aagatcacga tcttcagaac ccaggctatc accagattca actcgangga ccnagttctt 540
 tgggaatttcc ctgggtttgg actttcatca cttt 574

<210> 298
 <211> 535
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(535)

<223> n = A,T,C or G

<400> 298

ggtacattta	gcttttggaa	gatggagaga	cacagagata	tatgtaaacg	tcaagagaat	60
cactccactc	cacgtctggg	tccacaccct	tccaggcttt	gtctggaaca	ttatgtggct	120
ggtgcctgat	tccacagtga	ggatgcagga	gcccagggtg	tgatggataa	agcattagga	180
gacaatcaag	tgtcaggaat	tggtcaataa	gaacggctta	aataatgatt	taacaaggaa	240
gacgagtaaa	aaacaatccc	atttcatctt	tagaaagaat	taagtcacta	aatgatttct	300
tctaagttgt	tgccatttgc	ttggatgaga	tcttgaaggt	tttccattct	ttctccaccc	360
agttaagaac	acattgacta	gaaattttgt	acaagaatct	agtaaaggcc	ttttccctcc	420
tgctcctcat	tatgccaatg	caagaacact	tatagcttcc	tgngccaaag	tatttgacat	480
ccatgncttc	atcttggcct	aacttctgna	gtacctggcc	gggccggccg	ttcna	535

<210> 299

<211> 644

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(644)

<223> n = A,T,C or G

<400> 299

acatattttcc	cgggataaga	tcaccaggcc	aggagcgaag	ctatggaaga	aaggggaagg	60
gctccccaac	tttgacaaca	acaatatcaa	gggctctttg	ataatcactt	ttgatgtgga	120
ttttccaaaa	gaacagttaa	cagaggaagc	gagagaaggt	atcaaacagc	tactgaaaca	180
agggtcagtg	cagaaggat	acaatggact	gcaaggatat	tgagagtga	taaaattgga	240
ctttgtttta	aataagtga	taagcgatat	ttattatctg	caagggtttt	ttgtgtgtgt	300
ttttgttttt	attttcaata	tgcaagttag	gcttaatttt	ttttatctaa	tgatcatcat	360
gaaatgaata	agagggctta	agaatttgcc	atttgcattc	ggaaaagaat	gaccagcaaa	420
agggttacta	atacctctcc	tttggggatt	aatgctggtg	ctgccgctga	gtttcaagaa	480
ttaagctgca	gaagactcag	gagcaaagaa	ccccatntta	aggggtggagt	gtaccattcn	540
tcaaattgcca	ctgggaagct	gtttaancat	ttgnggtatt	caaaaaaaaa	aaaaaaaaant	600
ttcttgccga	ccctangnaa	tcaccctggg	cgtnttngan	cann		644

<210> 300

<211> 642

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(642)

<223> n = A,T,C or G

<400> 300

accttcccaa	ccattagagt	gagtcaccct	agaagcaaat	tctccagctc	cagtgcattc	60
tttagataac	tgccactctg	gtcactatct	tatctacaac	ctcatgagaa	acctcagcca	120
gaaccaccca	gctaagttgc	ctctgaattc	ctgagccaca	gaaactggga	gataatgttt	180
actgtttaag	actttaaatt	tggagtaatt	tgctattcag	ccatagaaag	tgacactcat	240
ttcttcgtgc	ccgacactgc	tgtctctgtg	gtttcacatc	cctgtgggta	aagctctcca	300

agggtctcatc	actaatttca	ggataaaatc	taaatccctt	aacatagcat	agggtttttta	360
caaaactgcct	cctgtgtgcc	tctcagcccc	atccggccca	ctctgccttt	cctncctgga	420
tcactccagc	tactctgaaa	catactgnac	cttncctaaat	gcngacagat	aaaattggca	480
gacttttcat	aggatgcccc	gtgaaatttg	aatttccagat	aaccatgaat	aatgngtgtg	540
ggtatacaat	atttgggaca	tcctatacta	aaaatattgc	tgacncatat	tcttcaaggt	600
attaatttaa	tctgaaatcn	catttaatan	ggcatnttgg	gc		642

<210> 301
 <211> 589
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (589)
 <223> n = A,T,C or G

<400> 301						
cgagggtaccg	tattatgaac	taacaaaaata	tttttgTTTT	acatcagtct	taatagtcctc	60
atTTTgtctca	attgggaata	gtgctagctc	tcttgTTTTga	gaactgtttac	ttcaaaaaaaa	120
atccaatgca	aggTgtgtgg	aagtcctctt	cataacctta	attaatactt	gttagtgatt	180
tacagtaaaa	ctgctTTTTag	tgaagtatat	tcacttgGCC	cataaacact	gaaatagatg	240
aggtaatgat	acattagtaa	tgtagtaata	aattagtatg	ccaattctga	caaaaaatta	300
ccaatagctc	ccccacctt	cacttacaag	agggttcctg	gtttgaacc	taacataccc	360
tagatatata	tagcaattct	gctgatagga	aaaccaagtc	ttagcacaca	gctaataaat	420
gacaaacatg	ggactagaat	ttaagtctat	actgccatga	acctcatgag	gaggagccaa	480
attgntaatt	aagttgcact	ctagttacca	gcactaacan	aacacaaacc	aataacatgg	540
gtgtgggcta	ttnanaaaaa	ataactgggg	gaaaacatta	ctttnttgg		589

<210> 302
 <211> 577
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (577)
 <223> n = A,T,C or G

<400> 302						
ggtacttgaa	atgttgctgg	ttaaaagttt	ttctgcttta	ctcattcctt	tgacagcatt	60
aattttgtgaa	catttatatt	cagttcagct	gtattttatgg	cacaagatct	cattttccaaa	120
atggcactaa	ttttccttaa	gtgtaacagc	actctatttt	tagcagtaat	tatatTTTTa	180
aaggTTaatt	tgtagaacaa	atgttttaac	tatactTTTT	ttctactcta	tactccccag	240
ttacagtatt	tacaaagggc	tgaagtctat	ataaaaaaat	gatctttggc	tgggcatggg	300
ggctcatgcc	tgtaatccca	gcactttggg	aggTcgaggc	aggcggatca	cgaggTtagg	360
agtttgagac	cagcctgacc	aacatgaaga	aaccctgtct	ctactaaaaa	tacaaaatta	420
gccaggcatg	gaggcaggcg	cctgtaatcc	caactactcg	ggaggctgan	gcagggagaa	480
tcgcttgaa	ccgggaggcc	gaaggTgccg	tgagttgaga	ntggccattg	ccttcagcct	540
gggtgacaaa	cgagtttcaa	aaaaaaaaaa	acatttt			577

<210> 303
 <211> 673

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(673)
<223> n = A,T,C or G

<400> 303
ggtacattta gcccatgagc ctggcacaga tccctatcta gacatgaggc ccttttagaca 60
tgacttttggc attgaccagc ctggttgcaa tgggtcgggg aggcagaggg gatgctcaca 120
ccagtaattc tcatcccctg aatgcttggg atcacctggg gagagtccac aaaatactgg 180
tgcaggggtc ccacctctga tgatgctgag tgggtgggtct ggggtgtggc ccaggcatca 240
tgatgtttca ggcccccagg tgacttctta ggcagcccag ctaagcccct agagccttgc 300
aatttccccc aaatgacctc agaggggccc atttgaggga aatgcctaac ttcagggggc 360
cgtaagaatc cccaggggag catgtgaaat gcagatacca ggcccacccc cagagatgag 420
ctgangtggg tcaaggggtg aaagtgcang gatcaagtgt ttttcacaag ctccatacct 480
tcaggaaatg gtgttgtggg ttgggcccgt anaaaacatt cttgagagtc ctggtgnctt 540
gtgccttggg gcaccttggg gtgggaatnc caatgggncc ttgncnttga ggaaggatgt 600
gccattaacc tggtaagggg aaacccgaaa ccggtttcaa cttgnccttg gcccaaccgg 660
ggacccttcn aaa 673

<210> 304
<211> 426
<212> DNA
<213> Homo sapiens

<400> 304
ggtactgggc tcccatttat ttgaaatgtc caaaataggc aaatttgtag acgaaaagta 60
gatcagtggg ttccctgcagc tgaagtgtag gttgaaagtg gagcatgact gaatgccctt 120
tctaaaacaa gtaaacctat aattcatatt tccttaagaa aataaaaatt ttattaaatc 180
aagatttaat ttaccatgaa gaacacagag ttattattag tgcaagactt tattcatcct 240
ctccccagcc aaatcccaag aggatggcca ccttttggaa tttttactgg cagcttactt 300
aacctaagtc agtctcctaa tctagtgggc tttgaaatgg ggatgtataa gacaaccatt 360
tgacacaggt agaaaacttt tactttttta agcccatcct cctggtaaac aatatatgta 420
cctgcc 426

<210> 305
<211> 655
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(655)
<223> n = A,T,C or G

<400> 305
ggtacgagat tctgtgtgtc agccagttta ccctccagtg tgtcctgaag ggaaacaagc 60
ctgatttcca cctagcaatg cccacggagc aggcagaggg cttctacaac agcttcctgg 120
agcagctgcg taaaacatac aggccggagc ttatcaaaga tggcaagtgt ggggcctaca 180
tgcaggtgca cattcagaat gatgggcctg tgaccataga gctggaatcg ccagctcccg 240
gcactgctac ctctgaccca aagcagctgt caaagctcga aaaacagcag cagaggaaag 300

aaaagaccag	agctaaggga	ccttctgaat	caagcaagga	aagaaacact	ccccgaaaaa	360
aagaccgcag	tgccagcagc	ggggctgagg	gcgacgtgtc	ctctgaacgg	gagcccgtag	420
ctcaggaggc	agaattcaat	gtgttatcat	tgggcagAAC	tggatcctga	aaaattcaag	480
atgctaagca	cctacactac	tttaagaatt	tggaaactgaa	catgaanaag	aagacngaaa	540
ttagaatttg	ggaacctgaa	tagcttttgc	aaaaacaccc	aagggccggt	taatcgtttc	600
tggtggtgct	nnggtggaat	gatncatggg	ccttgccntg	ggncaagggg	cngnt	655

<210> 306

<211> 684

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(684)

<223> n = A,T,C or G

<400> 306

cgagggtacaa	cacgcctcca	tgtttcagca	tctacgtcat	gggcttggtt	ctggagtgga	60
ttaaaaaacaa	tggagggtgcc	gcggccatgg	agaagcttag	ctccatcaaa	tctcaaaacaa	120
tttatgagat	tattgataat	tctcaaggat	tccacgtttg	tccagtggag	ccccaaaaata	180
gaagcaagat	gaatattcca	ttccgcattg	gcaatgccaa	aggagatgat	gcttttagaaa	240
aaaagatttc	ttgataaagc	tcttgaactc	aatatgttgt	ccttgaaaagg	gcataggtct	300
gtgggaggca	tccgggacctc	tctgtataat	gctgtcacaa	ttgaagacgt	tcagaagctg	360
gccgccttca	tgaaaaaatt	tttggagatg	catcagctat	gaacacatcc	taaccaggga	420
tatactctgt	tcttgaacaa	catacaaagt	ttaaaggtaa	cttgggggat	ggctacacaaa	480
aggttaacac	agtatttttc	tcaaataaac	catgccttat	tgcagaattc	ttcntttttg	540
gaaagaacca	ccggccaaaa	cattccccaa	cttntgtaaa	agctggtggg	gacctaatgg	600
ccgcccttaa	ttctgacttt	gaactggaaa	nccttttaag	naaaaacttg	nggcttttnt	660
aacaaaatcc	cgcgtanttt	gnct				684

<210> 307

<211> 647

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(647)

<223> n = A,T,C or G

<400> 307

caggtcttgt	atacacaagc	gtccatgtct	cacacaaata	ttgatgtgat	tattcttaag	60
tgttaaatca	ttaacactta	aatgacttca	ttgggaatat	tgagcagagg	gactgtgctt	120
ctatgcactg	ggcaaggcag	tatttgctta	ggaaactaat	ttagtcatca	gagatacttt	180
cctaaaaagg	aaaaataaaa	aacaaaatgg	tgccactttg	ggttgaagct	actttgttag	240
gcttgaattc	atttatatgt	cttttgattc	ttaaaaaaac	aaaaaacatt	ccattagaag	300
caccagtttt	tttgctcaga	ctttgtggat	cagactctac	actcaacaca	ctctaattcta	360
cttaaaggta	tacaaaatat	gctgatcttt	tttaaattat	gatttcctga	atttttttct	420
taagtctgtc	caactgattt	actcacttag	cttcctttcc	tcatcaccta	gtataataga	480
atgnatgtta	cattttttatg	aatggcagg	gtcattataa	tctgnattga	cttaaaaaagg	540
ttcttctcca	tgatgctaata	angtttttgg	atanttgga	ggatacncat	ttgacagttt	600
tgcattttat	gnatgagccn	gtatccatga	cggggcacgg	attatag		647

<210> 308
 <211> 660
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(660)
 <223> n = A,T,C or G

<400> 308
 acctttgttg ctataaacca gatggagact gtggtgctat tttgtatttt ttttttaatg 60
 gaaggggtgtt ggggtggcag tttttatcct tgaagacctc agatatgcta agtcaaccta 120
 agcaaagtat actcgggtgga accctagctc tgtgggggtga tctgcaaaat agagtatcct 180
 ggtcatgttaa gttcaggaaa tgctacagac tcaaggatta tttttgggga ttcaccatgc 240
 acagcacaca ttgaaggctg aaaagtcctt gcagaaaagga aactgactta actttgtttc 300
 ttaaggatat ttgaccacaa aacccttagt ctgcatcaca ccaacctgat gcctnctgga 360
 acctgtgttc tgtanaatgc gtattagaaa atgttggaca acctgtttca ttatcagaag 420
 tcccatttct gangacagtg gtctctgnct ggaaaataa ggtccagaat ctcaanttcc 480
 agggaccagn caaggtctgg cacttntanc cagtaaaacc ccattgcata aatcttcatt 540
 ccatcaaggg tataanttgc ttgngcccc tncacaaang ggaaanaact cggaanaaag 600
 gtncccttggg ccgggaacac ccttaagggc caaattccan acaattgnng gccgtaatna 660

<210> 309
 <211> 401
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(401)
 <223> n = A,T,C or G

<400> 309
 ggtacacata tacacataac aagtgtagaa gtatatatta catacataca ctcactctgt 60
 ctggttatagg ctaatttttga agaactccca taagtttctg ctgcttctcc cataactgct 120
 gccaccacca tcagaattca taatcaaacc taaccttttt gtttggggca ccaaactctga 180
 agacaaaatt aatttgcacc agtaaaacttc aagctgcttt ctttcttgaa aactaaacgt 240
 ctaacgtata atgtctgttt ggatactgtt ccaaattgtt gattgcatgt ggtaaatgtt 300
 gcattagagc actttgcaat tgcataattc attaattgtt tgtgagcttg catttgtgag 360
 ttattggatg atcagactga attttgcaag tatcacattg n 401

<210> 310
 <211> 502
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(502)
 <223> n = A,T,C or G

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<400> 310
acatgtttat ggggactcct aacacagggc tccccctcttt ttcactagga gtttcactta      60
cagctgacaa tctatggggg cggggggggg gcgcggcaaa aaagcaatga tggaccttgg      120
ctaatacccc cgaccccttt cttaacaata taggtagatg tctatcgtca gcttgcctct      180
ttgccaagac ctaggaggcg gctctgccat gagctgctgt gtgctgccct cccacacctc      240
agcacactca tctacacaca cacaggtagc acccacctcg atgagaccgc cttgctctgg      300
cctgccccaa ccctggaagt tgaaaacata gagccattta tttctgcttc tactctctgn      360
gcccattgtc tgtccacgaa actttgctga acttccagga ccttacacct gaagccccac      420
aataacctgg atgttttgaa agccctngga aanccagtnn taganaaagg acccccttaa      480
gccgaaacag ggctgtgtaa aa

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<210> 311
<211> 387
<212> DNA
<213> Homo sapiens

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<400> 311
cgagggtacct tactcagagg ggctttgatt tttttcaagc acaaagcaag aagttccctg      60
gatttctaaag cacactgtat ccaagttcct ggtgggtgaa aatacctttg acattgtttg      120
cagaacgaaa tcgagacttg tttcggaata ccttggctga tgtccacttt acttcgcaaa      180
caggccacac aaatattggc aggatttggg cttatcggaa caccacactc acagcacaag      240
atgtgtccag ggctgcggtc ggtggattct gccatatact ccatcgttct gtatgcctta      300
agttttcgcg cctccagacc agccctggat ttgctgaaaa cccgcaacaa aatagacccc      360
ggctgtcccc tcagctgcca acctggg

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<210> 312
<211> 654
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1) ... (654)
<223> n = A,T,C or G

```

```

<400> 312
ggtacaaaaa aatgcttctg gagatttctt tggcagaaat gcctttcatc tataatttca      60
tggagaactg ctttaattag cctaggtgaa aagtagtcct agcagtgtaa atatgtataa      120
ttagagtttt ctaatttcac tgtgagatct ctaacttttg agtggcaaac agatcaagtc      180
ttttgctcat agacttttct gtggggttat taaaatgcaa aagctttatt ttttttaata      240
atgccatact ccattagtgt cagatgatgg tatggaattt gttcccttgc tttccccac      300
tgttactgct tcagtttata gattgccagc agagttcaga aatagagcag ggatttacc      360
gttctttgct tggacatccc attttctttt gccagaccca tggtggcaat catgtatgaa      420
ctgngttata cttctcagtg ctttcttttt tctttttgat aagatggata tcaaaaatag      480
ttgctgtgcc aaaagtagta agccttcttc aagaagaaaa cccaatcttt ttctaataat      540
aatcctgnga aaatgcttca ttcattcatt taatttttaa gccaaaggtc accaaangct      600
gntgntttta actangaaat ttgaaatgnn agnnttaaag cnttttaaaa aaag      654

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<210> 313
<211> 656
<212> DNA
<213> Homo sapiens

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<220>
 <221> misc_feature
 <222> (1)...(656)
 <223> n = A,T,C or G

<400> 313

acagttctgt	cctggcatca	tcattcattg	tagtatggtc	aataggtgcc	atgaaactca	60
gtagcttgct	aaggacatga	aaccgaagtt	tcctgccttt	gctggctttc	ctatctactt	120
ttttgtggat	tttgcttcgt	aacttctgga	ttgcaagcca	ctgccttccc	atggccacct	180
gacgttggg	atccaaggag	ctgggtcttc	gttctatgag	ttctcgaagg	agctgggtgg	240
aaaagtcac	atcatcaaag	atttcttcat	ccaagtcctt	cagatgagca	ttagcagggg	300
cttgaggaag	gatctccggt	tcccctggca	aactctctgg	gacaggctga	gctgctggct	360
caggtttgccc	aagaactcga	tagacagagc	gcttggtctg	tgtccttcga	agtaatctct	420
ctttgnccat	cagaatatgg	tcgatctgag	tcaaagattg	aaccgttcaa	angcaccaaaa	480
acccttnccc	agtttttcag	aaacccagtt	tgggtcttatc	gggccatttc	tgaantgtgc	540
cgggttcctgn	aaactggtaa	agtcggcaaa	acgctttgcc	atgaacttgg	aatagncttc	600
catntccggt	tnctttttgc	anggaccctt	ntttggtggn	tgggtctttt	tttttn	656

<210> 314
 <211> 649
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(649)
 <223> n = A,T,C or G

<400> 314

ggtacatgga	ctggacctgc	ctggagccca	gcccagagca	tctcctcagt	gtcatctctt	60
atccagtccc	tgatgactga	gaacccctat	cacaatgagc	ccggctttga	acaggagaga	120
catccaggag	acagcaaaaa	ctataatgaa	tgtatccggc	acgagaccat	cagagttgca	180
gtctgtgaca	tgatggaagg	aaagtgtccc	tgtcctgaac	ccctacgagg	ggtgatggag	240
aagtcccttc	tggagtatta	cgacttctat	gaggtggcct	gcaaagatcg	cctgcacctt	300
caaggccaaa	ctatgcagga	cccttttgga	gagaagcggg	gccactttga	ctaccagtcc	360
ctcttgatgc	gcctgggact	gatacgtcaa	gaaagtgtcg	gagaggctcc	ataatgagaa	420
tgcagaaatg	gactctgata	gcagttcatc	tgggacagag	acagaccttc	atggggagcct	480
ganggtttag	accctgggtcc	atctcccttc	cccacttaag	aagtccagca	gaatcctttc	540
cccancan	ggatgganan	gcctgggnat	ctccttccan	aattgaagtc	atcttgcaag	600
aaggcaagaa	ccaagcagct	tcgantccan	ggtgtggaat	gggggcctn		649

<210> 315
 <211> 238
 <212> DNA
 <213> Homo sapiens

<400> 315

acctgcaggt	ggtggcagcg	ggtagccggg	actcggggcg	cgcgctctac	gtcttctccg	60
agttcaaccg	gtatctcttc	aactgtggag	aaggcggtca	gagactcatg	caggagcaca	120
agttaaagg	tgctcgctg	gacaacatat	tcctgacacg	aatgcactgg	tctaattgtg	180
ggggcttaag	tggaatgatt	cttactttaa	aggaaaccgg	gcttccaaag	tgtgtacc	238

<210> 316

<211> 637
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(637)
 <223> n = A,T,C or G

<400> 316

ggtactgtgt	ttacatggtg	agtggtcggt	accatccaac	agcacaaggc	acaaaaaatg	60
ggcatcaagc	aaaccatgca	taacgaggcc	tggaaaccat	caagaacagc	cacaaaagag	120
gtcactcaga	cctctgattc	aaacttctgg	tgtttgagtg	acaagcatgc	acgttttaggc	180
tctgccccaa	tatcagggag	gattttccaat	ctccacaaga	gactggtttc	acatatggcc	240
tttctcctgg	ctgtcaaacc	accaggggtc	ctccaaaaca	aaatgagagc	agctgttttg	300
ctgatcaacc	aatcacacta	gcagtctctat	ttcagtttaa	aacaaccttg	caggaataaa	360
ccacataaag	actccgtggc	taagggctgc	tattacttac	acctaccaag	cgaacacaaa	420
cggctggctc	ttctatggta	acgcttcact	ggcatgcaaa	ccccaagggc	cactgaatgg	480
aatgaatcca	catgaacagc	atacctggag	caggaacatg	ccttcacaag	aagtgtcagg	540
agactaacct	gtgggtgcta	acattnttgt	gangaaaanc	agggtagcag	aagggtgggt	600
tgaagtnttg	cctaatatnc	ttaccatata	tataaac			637

<210> 317
 <211> 505
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(505)
 <223> n = A,T,C or G

<400> 317

ggtacattgg	ccagactcat	gcacaccaca	tctgctgaca	tctccttcg	ttctgtgtac	60
tcattcagct	gtcctgaagg	atccatctcg	aaatagacca	gctctcctcc	tgtcagggca	120
atcaccactt	gtcgtgggtt	cactgcacac	ttcacaattg	ttttctttcc	aggggtcttc	180
cactcattga	ctctcttgtc	tgctcgtatg	tgccgaatgc	catctggata	gacctgcacc	240
aaggcatcat	ctcctaataa	ggagcaggac	aagggtcggg	tggtccccag	gaacccagag	300
tcagtcactt	cttctacagt	ttctccaatg	gacaacacta	gggtggcatt	cacgaaagac	360
acaatgatgt	aggcatcaaa	ctcatcttca	atgtgtcgac	gcactgtcca	nacagcgttg	420
gggttaccag	gtanctcana	aacagccatt	tctgacacct	naagtccatg	gtttaaggac	480
ttttaaanat	gatcngggnc	ccctn				505

<210> 318
 <211> 645
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(645)
 <223> n = A,T,C or G

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<400> 318
gcgtgtcgcg gccgaggtac atacaaactg gggttctgtc aatgacaaca aggactatgt      60
gttggttcat atcaaatcca agaataattag acaaccaaac atataacctt cttgtggttt      120
ctcttaatat gcagcattca ttatggtagt taggtccctt cactgggttt ctgcaagtct      180
gaagtttgtt ttcttctgtc gttgcccgcg tctccaccct cagagctgct tttgttttcc      240
tcttctttgc agtctttgtc atcttcatct cctggagatt tccgggactg tttagaggat      300
ttctttgaag tatatgactt tttccgtttt gagcctgctt tttcattctt tcttttgcct      360
tttccatctt cttctactct atcaccttct tctcactgct ttgcatctgc agtattttcca      420
ccttctcttc agtttctgaa ganctctggg gctgaattgc ctggtaccag taaactttac      480
tnctgggtat tttctatttc cacaatcctt cgttaaatacc tttccgttgg ttgacttttc      540
aaactggcnt tggacctggc ccggccggcc gtcgaaaggc gaattccacc attggcggcc      600
gtactaatgg atcnacttgg nccccctgg cgtaatatgg catan                      645

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<210> 319

<211> 424

<212> DNA

<213> Homo sapiens

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<400> 319
actttttccat aaagttctag tcacttctgt tggcctgagc caccagatta tgatgttgcc      60
agaattcact caatttgaat aaagatgaac agtatttggt ttcttgtttc catgaattat      120
atcagtattc taaaacatcg cttcagaaag agaactgttt atttctgcag gcttcctgtc      180
cttttgtggg atgggttttt ggccttattt tcactggctt ttccttctcc aaactttgag      240
gcgtgatttc attcattgaa gaatcaatac atattttggt tcaaaatggt tgaaacaaaa      300
gacatagatg gtagactttt attaaaacat atatggatgt ggaaagcaca tatattaatg      360
cagtcatccc ttttcaggtg ggaagagagc aaaccagttg attttttaat tcatccttag      420
tacc                                          424

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<210> 320

<211> 472

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(472)

<223> n = A,T,C or G

```

<400> 320
acgaagtcgg gcaacaagaa agcgaggagc agcgtgtatg cccttatcct cagcaagtga      60
gaacaaggca gatcacagca ccgacacaga agatggcctt ctcccatgtg ccagcggaga      120
atcccccttc agccaaatcc tcaggaagca gagcaccaca caagcagcat ttcttggttt      180
ctcatggtca tattcaaaaag cgacttttaa atcagaaaat agaaaaagca tttgtggtag      240
gtctttttca aaccagagaac acaagttggc taggaaaacg gaaagcttcc tctggcatcc      300
ctgtttgagc tctcctcctt cttggaggag tttcctgaac cgacacaca tcgcttcctc      360
accaagagag atgctcaact aggatctttt ttagtgtgcc agttacaaga cacatttaca      420
ggctatgttt ctaagacctc ttagtggcca acgangaagg aggttacctt cg                      472

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<210> 321

<211> 588

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(588)
 <223> n = A,T,C or G

<400> 321
 acctacctca caggtttgtt gtgaagacta aatgaagata atgcaataaa cggctgagac 60
 ccatgccaaag cacatggtaa aagtgtgtaa ttgcgtatta gcagcagcag ccagagcaat 120
 agccaagggt caattaactc ccagtcaggt gttcagttca tgattgtcca tgcattaaga 180
 gccaaagcac ccccaaagcc atctcacctt gctgaagcag tctaaagtgc tcaactaagt 240
 tgggtgcatta atctctagac cagaggctcag cagacgtttt ctgtaaaggg ccagacagca 300
 aacatttttag gtctctgttg caactactca gctttgccct tgtgaatgaa agcagcaaga 360
 caatatgtaa atgaatgggc cgtggcagat ttcatccaca ggggttccct gctttagact 420
 gtgccgagag ccatangtct tgagttnaag tccaacctta ccacacttgc aanggggtgg 480
 ctttgaccaa gtcnnggaag gnntnccaaa agtcaaggcc cttaancctt taaaaaatgg 540
 ggaataataa tgccttcctt caagagctgg tnaacaatg gaagctgg 588

<210> 322
 <211> 589
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(589)
 <223> n = A,T,C or G

<400> 322
 acagctaatt gaaagtatat aaaaatgtga attagtgtgg ttgcagctaa aagtatgagt 60
 gatgtaacaa gaatgacgac gtaatgagtc aagtgggtgag actagttcta taagcaccgt 120
 aaggagtgcc agtcctaata catgaacttc atccatccct tgtatatcaa ggaggagact 180
 gtgggtcagag aatgtatttt gtaagctata gtttaaaaaat attactcttc agaaatttgg 240
 agcccaagca ggaattacag agattcctcc caacagaggc cctgagatct cccctgactg 300
 ccacccaaag gatccacact tgcctctgat caaccagatt caggccaagg cttanaagag 360
 ggaggaggca gtggccagaa gccagggact cttagaggaga gaaatgatgg cagatgtggg 420
 gttcagaaaa aacacaagac gggaaagggg aagaagggga aaaaaaggaa gaaccaccac 480
 tgggtgangaa attgttnaan aaggccacnt ttgcttgang agtggccctt gnccttttca 540
 ccttgctgtt gggcaaangc tggcaagtaa agacaagggc ttaaccctn 589

<210> 323
 <211> 582
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(582)
 <223> n = A,T,C or G

<400> 323
 actgcttatg taaatcgttt atttttattt catcaaagcc tggcaagtat atgcattcca 60
 atttaccatt ggcaaagctt tattttattt taagggttga tgttgaatta attttgtggg 120
 aaaatgagat ttgtaagtag ttttctttct agataagata acataaacca agctttcaga 180

agttaaggat	gatgaataat	attgaaatga	cttggttatat	attgtaaggg	ttcccttaag	240
tatcataatt	aacaatttgt	ggaaattgaa	aaagcataaa	ctgtgttatt	tgattaagta	300
atatgttccc	ttaaaattca	ttttgaggtg	tatgttatat	acacagtaaa	tttttgttca	360
ggaatgactt	gctcattctg	tgtttttaaa	aataggaaat	aaggcatagt	gagtcacat	420
tacatcaatt	aaccnaaaaa	atatttcatn	ccctccgtca	ctggaaatta	tctacttcag	480
ncacctttct	taatcctcgt	gttaggaggg	ccccgtttat	gggccttttt	taatttccat	540
gngccatatt	gtccactacc	cggcagtagc	ccaaagctan	ct		582

<210> 324

<211> 180

<212> DNA

<213> Homo sapiens

<400> 324

acccgtcggc	ggcaccacc	aacaaccgcg	ggatcttctg	aattgtggct	agcgagcaga	60
tgtttttgtg	gccgcagaat	ggcaggcgga	ccgtggcgaa	ggctctgccc	tggttgaaca	120
tttctgtcac	ttgggaaggc	aggtagctgg	tggaggccat	gagcactttc	ccgaagtacc	180

<210> 325

<211> 575

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(575)

<223> n = A,T,C or G

<400> 325

ggtacaaata	ctgggaaaaa	cctgctcttc	tgcgtaaagt	gggagacaat	gtcacaagtt	60
aaaagctctt	attcctatga	tgccccctcg	gatttcatca	atttttcatc	cttggatgat	120
gaaggagata	ctcaaaacat	agattcatgg	tttgaggaga	aggccaattt	ggagaataag	180
ttactgggga	agaatggaac	tggagggctt	tttcagggca	aaactccttt	gagaaaggct	240
aatcttcagc	aagctattgt	cacacctttg	aaaccagttg	acaacactta	ctacaaagag	300
gcagaaaaag	aaaatcttgt	ggaacaatcc	attccatcaa	atgcttggtc	ttccctggaa	360
gttgaggcag	ccatatcaag	aaaaactcca	gcccagcctc	agagaagatc	tcttaggctt	420
tctgctcaga	aggatttgga	acagaaagaa	aagcatcatg	taaaaatgaa	agcccanaga	480
tgtgccactc	ctgtaatcat	cgatgaaatt	ctaccctcta	agaaaatgaa	agttttctaac	540
acnaaaagaa	ccngangaag	aagcatgctc	atcaa			575

<210> 326

<211> 584

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(584)

<223> n = A,T,C or G

<400> 326

accagcaatc	ttagttacaa	aataatactt	ttcagtagtc	tttcttgatg	cacattttaa	60
aaccagcaca	actcctctag	tgaaatggtc	aatttccctt	aaaaaacaac	atctgaaatt	120

ataagacctg	acaaatcata	ttatatattca	atatttagact	gctgtggctc	tagaacaaca	180
gaaaagcgta	actttcaaac	agcttaggga	aaaagcactg	aaatgtagat	gtcgtcaatc	240
agcctcaggc	attattgac	ctgtgccatc	cacacaccct	taagggtttt	cacagcactc	300
tgacgggtatt	atgtgtgttt	tgcaaatgac	gaatcaacag	tatgctgaat	aatcagcaat	360
gaaacacagg	agataaatta	aatgtgtttt	tccaaatgtc	agaatatcga	ggttcccagg	420
agttggcaaa	acttctcaag	gtgggccatt	cagactcang	ctgtgcnggg	ataaggcttc	480
cttaccgtan	gtgaaccggg	tgagaatatt	ggttccncac	acccnagaag	ccatttaggc	540
atatactggg	caaaaaagaa	acctgaatnn	aatgggacca	atnt		584

<210> 327

<211> 573

<212> DNA

<213> Homo sapiens

<400> 327

ggtacctctc	tgaagcacac	agaagtagcg	ccaggcagag	ggtttgaagg	atatgtattc	60
atcaagaagt	aaacgcaa	ccaagatctc	aaccacactt	ggctcttaaa	gatccaccaa	120
cttaaccctt	atggcatgca	tatgtgactt	ctgcaagaag	caacttgaaa	acccaagaat	180
gccttgctct	accacgtccc	gcgactgcaa	actcccttcc	tctgaaacaa	gcagccacag	240
ctttataaga	aacatgccgg	catgtagtcc	atcctgggag	gggagaaatc	ttcaccactg	300
gctgcctttc	agcaagttcc	ccttgaaatc	tgccggcagt	ggaacagatc	ccagatccca	360
acgctgtagc	ttgggctgcc	tcccaccagg	ggttccttgt	tctgaaagct	gccaccagt	420
ttgttccgaa	agatgcctct	gcctttgtgg	ggatcatctc	cattatgcct	cctaacagga	480
aacaggcttc	tatggaagag	aagagtccca	gccccctgac	ctttccgctt	tggtcttgga	540
ggatctgagt	cacatctgcc	atgttgccta	aag			573

<210> 328

<211> 422

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(422)

<223> n = A,T,C or G

<400> 328

ggtactat	ttt	tgaagcgctg	gaagaagaac	tggtttgatc	tgtggtcgga	tggtcacctg	60
atctattatg	atgaccagac	tcggcagaat	atcaaggata	aggtccacat	gccaatggac		120
tgcatcaaca	tccgcacggg	gcaggaatgt	cgggatactc	agcccccgga	tggaagtgca		180
aaagactgca	tgctccagat	tgtttgtcga	gatgggaaaa	caattagtct	ttgtgcagaa		240
agcacagatg	attgcttggc	ctggaaat	acactccaag	attctaggac	aaacacagcg		300
tatgtgggct	ctgcagtc	gaccgatgag	acatccgtgg	tttcctcacc	tccaccatac		360
acggngctatg	ctgcaccggc	ccctgagcag	gcttatggct	atggggccata	cggtgggtgcc		420
gt							422

<210> 329

<211> 467

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(467)

<223> n = A,T,C or G

<400> 329

ggtaccacta	tccccacttt	acagatgagg	aaaaaacagg	ctcaagagtg	aagtcacctcg	60
cttgcttagt	atctcaaagc	taagctgcaa	gcaaagatgg	ggctccaagg	tctgtgtgac	120
ctgagctctt	ggttatccaa	tacttcaaaa	ctgtcactta	ggaaagaaga	gaacattttt	180
agaaatagga	gaaaacccaa	cagccacagt	gattgtcaaa	gagctgaggg	ggcatcagac	240
caggttcggg	ggcaccagac	caggttcagg	gccactgcgt	aactgccaat	gccctgcca	300
gccccaggag	acacgcagac	tccactgccc	tagacgagtg	gccctgctgt	taataaataa	360
ataaaggtca	ggcacaatcc	tacacaaagg	ccccagaatt	caaaccactg	tcttgnttct	420
cagacttttg	cttaagagcc	nagtacctgc	ccgggcccgn	cgctoga		467

<210> 330

<211> 595

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(595)

<223> n = A,T,C or G

<400> 330

tcgagcgcc	cccgggcagg	tacatggccg	ccgtcctgga	atacctgaca	gcggagattc	60
tggagctggc	tggcaatgca	gcgagagaca	acaagaaggg	acgggtcaca	ccccggcaca	120
tcctgctggc	tgtggccaat	gatgaagagc	tgaatcagct	gctaaaagga	gtcaccatag	180
ccagtggggg	tgtgttacc	aacatccacc	ccgagttgct	agcgaagaag	cggggatcca	240
aaggaaagtt	ggaagccatc	atcacaccac	ccccagccaa	aaaggccaag	tctccatccc	300
agaagaagcc	tgtatctaaa	aaagcaggag	gcaagaaagg	ggcccggaaa	tccaagaaga	360
ggcaggggtga	agtcagtaag	gcagccagcg	ccgacagcac	aaccgagggc	acacctgccg	420
acggcttcac	agtcctnttc	accaagagcc	tcttntcttg	ccagaagctg	aaccttatta	480
cagggaaatc	attaattagc	cggctttgaa	ggtggaggcc	taaatcatcc	taccaatgct	540
gcattgacct	taaagatgac	ctaggaacac	gctggagaaa	aaangtggnn	aggat	595

<210> 331

<211> 421

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(421)

<223> n = A,T,C or G

<400> 331

acccaaaaac	cacccccaac	gccccccaac	cctcaggcgt	gcctgtgagt	gtgtctgtgt	60
gtctcactct	gactcaccca	gacaactgac	ttcagcagcc	aaccttggtc	attcccagaa	120
ccaccactgg	ggggcatacg	tgtggctaga	ctggggggcg	ccgaatatct	gtctctacaa	180
aaaaaaaaaa	aaaaattaat	gggggtgtgt	ggtgggtgct	gcctgtgggtg	tcagctgctt	240
ggggcgctgg	ggcaggagga	tcacttgagc	ccgagaattc	aaggctacag	tgagttaaga	300
ttacgccact	gcactccatc	ctgggtgaca	gagcaagacc	ttgtctcaag	aaaaaatttt	360
taaatgagaa	aaaaaaaaann	aaaanaaaaa	aaaaaagctt	gtacctcggc	cgngaccacg	420

c

421

<210> 332
 <211> 616
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(616)
 <223> n = A,T,C or G

<400> 332
 cgagggtacca ggctacatat ctcgggtcagt agctggatcc tttgataatg aaggcattgc 60
 tattttttgca cttcagttca catactatctt atgggtataaa tctgtataaaa ctgggtcagt 120
 tttttggaca atgtgctgct gcttatccta tttctatatg gtctctgctt ggggtgggta 180
 tgtattttatc atcaatctta ttccactgca tgtattttgtg ttgttactga tgcagagata 240
 cagcaaaaaga gtctacatag catatagcac tttctacatt gtgggttttaa tattatcaat 300
 gcagatacct tttgtgggat tccagccaat cagaacaagt gaacacatgg cagcttgcag 360
 gtgcttttgca ttgctgcaag ctttaancctt cttgcagtat ctgagaaccg attaccaaac 420
 caagagttcc agaccctttc nttttggggg atactacttc agngctgggt cctanggcag 480
 tattgntatc nggtacattg cccctggatg gcngttantc ntgggaaccg ggatncaaaa 540
 cccntccata tgctanggn gncctaacct acaatngggg cttttttgac aaaaanntgg 600
 atnccctccgg ggcenn 616

<210> 333
 <211> 650
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(650)
 <223> n = A,T,C or G

<400> 333
 ggtgggagag ctaagtctgc attattttttt ggaatcatta attaatttgc aatcacagag 60
 tcttcaggaa aaaggcaagt tatcagctga agaaaatccc gatgactctg aagttccatc 120
 atcatcagga attaactcta ccaaataccca agacaaagat gtcaatgaag gagaaacatc 180
 agatggagtg aggaagtcag ttcacaagggt ctttgcttcc atgcttggag agaatagaaga 240
 tgatgaggag gaagaggaag aagaggagga ggaggaggag gaggaagaaa cacctgagca 300
 acccactgcg ggcgatgtat ttgtattgga gatgggttctc aatcgtgaaa ccaagaaaat 360
 gatgaaagag aaaaggcctc ggagtaaact tcccagagct ctgagaggtt tnatgggttna 420
 ancctcnntt cgttttgnnt gaagagaacg tggngaggcn aatnttgnnt gcctgggaat 480
 nataaaaaa gctcttttgg cttatggcca tcttacttta ncctgatttt agggccnagg 540
 ngcctngaaa atcntgccnt tgagtgatgc tggccttnaa tcccnggcc cnaaaaaggg 600
 ttnactggcn aatttttggg nagcctttta ancgggtttt ttgnttcaan 650

<210> 334
 <211> 734
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(734)
 <223> n = A,T,C or G

<400> 334

tgntatctga	gaattcgccct	ttcgagcggc	gccggggcagg	tacagattaa	cttaacacaa	60
aaaccogaac	ttcaaaatga	aggtgtgtgg	aggaaagggtg	ctgctgggtc	tccctacaac	120
tgttcatttc	tttgtggggc	agggggtagt	tcctgaatgg	ctgtggtcca	atgactaatg	180
taaaacaaaa	acagaaacaa	aaaaaacaag	gaactgtcat	ttccacgaaa	gcacagcggc	240
agtgattcta	gcaggcctca	gggccctggg	cctggggagg	ctacatgagg	gggagcctca	300
gtcacaggat	caacctgggg	cccgaaggag	caggggtccc	tgccctctcc	tctgcaacag	360
atcatcccat	ccaacacaa	ccccaaaatg	ttgatgatga	cgcaacatgg	tcaaccctna	420
agacctttta	gaccaaacag	agcagcatag	gaaaaaaaaa	accaaacgca	ccaattttctg	480
catgtgtcaa	tggtaggggc	ccattttnaa	aaagtttggc	ttaaacaagc	tggctttact	540
tgganggacc	taatnccaag	cttaattcct	ttggtaangg	aaaaaacctt	tgaacccenn	600
tctnagctta	aantcttaag	gttaagtcen	aaccanttaa	aacntttctg	gttnccctt	660
tccaagnttn	aagccccctt	ttccctnaac	ctgggggattg	ggggnaattn	accnggnent	720
ttaaattttcc	gnng					734

<210> 335
 <211> 492
 <212> DNA
 <213> Homo sapiens

<400> 335

acatccttca	ccaccatgga	atatttttagt	ctatgtagtc	aaagtcttct	ggaattccaa	60
aagttctatc	aatttttattt	tcttcaaacc	caaattttct	tttggcccaa	gattttattg	120
cgaatatgtt	atgtatttct	tccacaactt	gcggatcaca	gtctttgtat	ttttctactt	180
ctgccttttag	ctgttccctt	tggtctcgaa	gtgaagaaag	ctcttttgct	agcctgggtc	240
gctcttccgt	ttcacatcgg	ccaatttttag	ctttctcaat	gcttttctgt	aggcttgc	300
gcttttgact	tccctcagac	aactgagatt	ccagaacctc	caacttatgt	ttccttgc	360
gaagagcttt	acttggaaaa	gcccaataat	aattagaagt	tccgatcctc	tcacagtcaa	420
ccataccatc	atcaactaag	ctttgaagga	cttcttttac	tgacatagca	gtaatgcctt	480
tctctttggg	gg					492

<210> 336
 <211> 732
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(732)
 <223> n = A,T,C or G

<400> 336

ggtacatata	aatgaatctg	gtgttgggga	aaccttcac	tgaaaccac	agatgtctct	60
ggggcagatc	cccactgtcc	taccagtgtc	cctagcccag	actctgagct	gctcaccgga	120
gtcattggga	aggaaaagtg	gagaaatggc	aagtctagag	tctcagaaac	tccccctggg	180
gtttcacctg	ggccctggag	gaattcagct	cagcttcttc	ctaggtccaa	gccccccaca	240
ccttttcccc	aaccacagag	aacaagagtt	tgttctgttc	tgggggacag	agaaggcgct	300
tccaacttca	tactggcagg	agggtgagga	ggttcactga	gcttccaga	tctccactgc	360

ggggagacag	aagcctggac	ttttgccc	cctgtggccc	tggaggggcc	cggttgtca	420
attcttggg	ctcttgnngt	tccagaagca	agccggaagt	ttgaaagaaa	gggaaccttg	480
ggaatnaagg	ggtgcttggg	tattaanccn	naaaagggat	tggggttcct	gnttccaang	540
ggancctttt	ggcctttctt	tttggncctt	tncttaaggc	cccaggccct	nggggtttgg	600
accttngccc	cgnggggccc	aaggggccna	aattcccacc	ncanttgggg	ggcccgggtac	660
ttaangggga	atcccaactt	tgggncccca	aactttnggg	gnaaancntn	gggccccaaac	720
tggtttctcn	gg					732

<210> 337

<211> 642

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(642)

<223> n = A,T,C or G

<400> 337

ggtacaacag	tagaagaagc	aacaacaata	gtaaagccac	aggaaattat	gttggacaat	60
atagaagacc	cttctcagga	ggatctttgc	agtgtgtgcc	aatctggaga	aagtgaggag	120
gaagaggaac	aagataccct	tgaactggag	ctagttttgg	aaaggaaaaa	agcagagttg	180
cgagccttgg	aggaaggaga	tggtagtggt	tcaggggtcta	gtccacgttc	tgatatcagc	240
cagccagcat	ctcaagatgg	aatgcgtagg	cttatgtcta	aaagaggaaa	atggaagatg	300
tttgttcgag	ctaccagtcc	agaatctacc	agtaggagtt	ctagtataaac	tggaacgaaga	360
tctccagaaa	atggagaaaac	tgcaattggg	gctgaaaaat	tcagaaaaaa	tagatgagaa	420
ttcagataag	agatggaagt	agaagaatct	tcagagaaat	taaagtcctg	ccnggccgnc	480
gttcnaangg	cnaattncac	acctggcggc	cgtctagtgg	attccacttg	gtcccaactt	540
gcgnatctgg	gatactgggt	cttggnga	tgtntccgtt	acaatcncnc	acttcaancc	600
ggagcttaan	gtaaacttgg	ggcntannag	tgctnactcc	tt		642

<210> 338

<211> 723

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(723)

<223> n = A,T,C or G

<400> 338

acataaacac	acgcataatca	caagtctagt	caagaaagaa	atacatagaa	aaacaagata	60
gaatttttaa	aataatttgc	aagggaagtt	ctcaatgctt	cagttctaaa	atattgtctt	120
cttttagaaa	aattttaagac	tggaaataaca	gattgttttt	cctgcaatgc	tgtaattact	180
gcaaatttat	cagcaaagag	gtaaacagca	atgcaatttt	tccttaagct	tgaatacata	240
agggaacaat	aaagaaacct	gattagacct	gaactaatta	aaagtcacac	cagtaatttt	300
caggccagct	ctgggtctcca	ggtagaattc	caggacaggt	ttgnatcact	gggtccattc	360
ccaacaggct	ggataggaga	gtctggagta	attataagga	taccaccttc	ttctatcctg	420
ggctgccgac	tggcattggg	cttcacattc	ccagaatacc	ttctgngnga	ataggccctt	480
ttcaggggga	ccnggaagga	aggaaaaagg	gggctntggg	aaacatnggg	ggattctttg	540
gnaaaatttc	tggcctggaa	tngtggcnaa	cctttggggc	ttgggggtntn	ggaaaatgtc	600
caaggganct	ttaangggnc	ccttngaact	cggagggnaa	aatttaacct	ctangggccc	660

ttgggttnaa aaagggcttt atttggggga cccgggttnc ccttgnaaaa aatgccncca 720
ann 723

<210> 339
<211> 356
<212> DNA
<213> Homo sapiens

<400> 339
acaatagtgt aaaggtgggt tttaaaaaca tagccagggtg tgggtggcacg tgcctttagt 60
tccagctact caggaggcta aggcaggagg attgcttgag cccaggctgt gtggttcacc 120
ataatttgtgt ttgtgactag ctactgcact ccaacctggg caacatagtgt ggacttcac 180
tctaaaacaa aacaaaacaa aattacatt aagcactatt gttaaatttt taattgtcag 240
tttatcatta ttttgggttaa gacattctgg ggtttcttga atcttgtcca aaaaccagtt 300
gttttggaat attgctttaa attgagcata tttatgtata ttggataaaa atgtcc 356

<210> 340
<211> 502
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(502)
<223> n = A,T,C or G

<400> 340
caggtacaat taactgtcac acagtcagat ataattcact ctgatgaggc cagagaaaga 60
aaacaaggca aagaaagggc tcatcttgct cctttaggta atatccaaat atcccagcac 120
ggaaaccatc ttttctcaa aggttatcta cacacgtggc ctgagaagaa aggcagtaag 180
cctttgggga gttggggaga aggaaggaaa agaaaacagg aggaggaaaa aggaagacct 240
cttttctgaa ccacaaatgc ctcatgctgc gcactccaag ctgaaatata gtatggtagg 300
tattctaagg gggaaaaaaa caactacatt tctttcctat tactgattcc tctctgcttc 360
acagacccag ctgggccaag tggaaaacgg ctgccatgag ttctgcagaa gctgcattgc 420
ttgccctggc agtctgaagg tgaagcangc ttcanagggt gacagctcaa ggagaattcc 480
cagaggncnc cnaaaagccc cc 502

<210> 341
<211> 243
<212> DNA
<213> Homo sapiens

<400> 341
acatcatcac cttcttggtc aagttttcca tccaacttaa ttttaggatt ctccggacaa 60
tcaacatttt cactgctttc tgctgcaatt ttctgttttg gattttcagt cacctcgttt 120
tgggcttcca ctgctgactt tctgtcagta gactttacct gctcttcttc cttaatttca 180
cttaaatctg tgttctgata cgttaactct tttttaacat ctttaagggt ttctacgggt 240
acc 243

<210> 342
<211> 669
<212> DNA
<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(669)
 <223> n = A,T,C or G

<400> 342

tgagggtcaag	cttttttttt	tttttttttt	tttttttttca	gctttgttgt	agttganatt	60
ctgatgttca	cctaacaaaag	tccctgacaa	aacagacttc	cttcaatcca	ggtcataatt	120
tgaaacgtta	tacaataatg	agattttaagt	gatgaatgga	aagaaaagaa	ggagactgaa	180
aagatatcag	aaattttctat	tngtttttag	attcagaaaa	atataattac	aggccaacat	240
gggtntgaca	gagaggaagg	acgtcagcag	ttacttgaat	gtaacccctt	cccagcattt	300
ccaagacct	gcaatgngct	cattgngatc	caagggcctt	gntacctagt	ttctaggnga	360
tctacagant	tgaaacaacc	cagcacaact	ttattttcttg	gagaagatga	acccttaact	420
ntgaagggtgc	ntaaaggaaa	tnttnaactg	gtcacttcca	tgggtccggt	ttcaaagcca	480
caatcnttcc	gattaaanta	aaacctggga	naaaagccaa	cggngggcaa	ncaaaccgggn	540
gggattctac	ntttggtaac	ccattgaacc	gggggcttcn	ttttaaanan	gtgntcattg	600
gtttggtttt	anaacctaaa	nccccttttt	tnaaaaaant	ggtgnaaatt	ttccnctnt	660
aaccgggtt						669

<210> 343
 <211> 500
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(500)
 <223> n = A,T,C or G

<400> 343

ggtacagggc	agtgacatga	gctttgacaa	acagttcatg	ctaggagtag	agactgtgtc	60
ccaggactga	gggatctgcc	taagatcaag	ggaaaaatct	gaaagactcg	tcctaacaaa	120
gtgtaaaact	aagggtttat	aagttcaagg	gaactgacta	ctgattagct	gccagtgaag	180
acaaaaatca	acactctcag	gtaacagaaa	tcagaattgc	tacaatgcat	caccaacaat	240
gtccagctta	caatttttaa	ggacgactaa	ataggagact	cccagtttct	agtctggcac	300
ataaggaggt	cggcagtcac	cacttcattc	taacaagtaa	aaagctgaac	aaactaaaaa	360
atcaacaact	cagccgggtg	tgggtggtca	cgctgtaat	cccagcagtt	tgaggaggtg	420
aggcaggcgg	atcatgaggt	caggantttg	agaccagtct	ggcccacatg	gnaaaacccc	480
ggtctactta	aaanataaaa					500

<210> 344
 <211> 483
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(483)
 <223> n = A,T,C or G

<400> 344

ggtacttcgg	ccaaaaacag	gagcccattg	tgacaggcat	ctggcatcac	tacaaaggac	60
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ccctgggggct	ccatggcaac	caggcaggca	ctaaggatag	aaggagagtc	tgcggcagag	120
attccacaca	tccggcacac	atccttgagc	tttttgctga	ttgtctgtag	tgaacattct	180
ccaaggagga	tactccaatc	tttaagctcc	ccatgggcaa	gacgccaag	tcgcccatt	240
acaactctcc	agggtagaga	tgctatttgg	acaatcccta	tgcaccactc	ccataacttc	300
tgtagtccaa	ttttacgtgc	agatacttta	ctcctccgtg	acctaacaaa	taaagaaatg	360
gggaagggga	aggggtccct	agataaatca	gagttattta	tcacttataa	gaccaacact	420
agaaatttcc	aagaacctat	ccatgctgna	cctgccnggc	ngccgttnaa	aggcgaantc	480
agc						483

<210> 345
 <211> 667
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(667)
 <223> n = A,T,C or G

<400> 345						
ggtacaggag	agaaggctct	tatgaccgat	acctacgaat	ggatgactat	tgcaggagaa	60
aggatgactc	ttattttgac	cgttacagag	atagctttga	tggacggggc	cctccaggcc	120
cagaaagtca	gtctcgtgca	aaagagcggt	tgaaacgtaa	ggaacggcgt	agagaagagc	180
tttatcgtca	atattttgag	gaaatccaga	gacgctttga	tgccgaaagg	cccgttgatt	240
gttctgtgat	tgtgggtcaac	aaacagacaa	aagactatgc	tgagtctgtg	ggcggaagg	300
tgcgagacct	gggcatggta	gtggacttga	tcttccttaa	cacagaagtg	tcactgtcac	360
aagccttggg	ggatgttagc	aggggaggtt	ctccttttgc	tattgncatc	accacaaca	420
ccagatcacc	gntcctgcac	aggtcaacat	catgtttgga	accccgnaag	aaccttgnaa	480
catgccccaa	gncnatgcca	tggtgctggg	ggccanaaat	ttttagccgt	tccaggaatt	540
aattccccga	anaaggaacc	tnagggnaat	gccnaaccgg	ccntcaaann	gcccattgaaa	600
ccttcttgcg	gaaaaaaaaa	gggggcctna	ggagggatcc	ttggggcccc	tttaancntt	660
caancnn						667

<210> 346
 <211> 754
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(754)
 <223> n = A,T,C or G

<400> 346						
actgaactac	ttcattacca	actcggccca	gatattgaca	tgccctgatga	taacaaaaga	60
attagaaggg	tgcgctctcct	ggtggaagag	ggctgtgaag	atcgaattct	ggtagcacat	120
gacatacata	cgaaaacccg	gctgatgaaa	tatggaggtc	acggctattc	tcataactc	180
accaatgttg	ttcctaaaat	gttgctgaga	ggcataactg	agaatgtgct	tgataagatt	240
ctaatagaga	accctaagca	atggctaact	ttcaaataag	atgggttgctt	atgaattcac	300
accttgagta	taaaacttgc	agagaacatt	cagcgatttc	cagtccactg	tgagatatta	360
atcagttacc	taggactaat	gacagatcat	ttccttctga	tgagaactag	gaggggtttg	420
ccttctctga	gaccagcta	ttacaactgg	gccctntaag	ggagggtactt	aagcctaaat	480
tgagcccccta	ataatttnaa	cttaaccocaa	anttaattnc	cggaanttcc	cttngggccg	540

ggaaaccacn	ccttaagggg	ccnaaatctc	cagcnccaac	ttgggcgggg	ccggttactt	600
aanggggaat	ncccaaactt	tggggncccc	aaancttttg	gcggaaaacc	atngggccct	660
aaacctnggn	tnccccnggg	nggaaaaatn	ggnaattccc	ggttnnanaa	atttccccnn	720
ccaanntttt	tcnnaacccc	ggnaagccnt	taaa			754

<210> 347
 <211> 444
 <212> DNA
 <213> Homo sapiens

<400> 347						
accgtctcga	tcctctgctt	cccttgggct	gagagctcca	ggggtgactc	gaagggtgacc	60
ctataaggag	tcctgagggg	cctgaggttc	tggaaacagct	tctctccatt	gggggttcccc	120
agaatgtagc	agcccatgat	gtggatgacg	ttcggtctctg	ggttcacttt	gctcatcagg	180
cggctcagcc	gcttcagaaa	gtgaatcatg	tcctcttccc	tctccacttt	ggcaaagggtg	240
gccaccttgg	tcttgaggag	atagaggtgt	ccaggacctc	cctggcagaa	aatcagcatt	300
ttccagatct	tggctccctt	gtggtagacg	ttcagcttcc	tctctatctc	ctcaaggatg	360
tcctcgaagg	ttgcgtgctc	atgggtccgta	gaggatgggg	atgatggagg	gggtcatcccc	420
ggcggatgat	agtgggggatg	tacc				444

<210> 348
 <211> 693
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(693)
 <223> n = A,T,C or G

<400> 348						
gggtacttta	gaccttttgc	cttaaagtac	tataccaaca	cagactttat	agtatgttta	60
aaaatcccaa	ctgcaagata	cacaggatgc	tgtaggcctg	atttcctgtt	gtagaacctc	120
cagccctgtg	ttgaatgagg	aggtgcaa	atatagacct	ttaaagatcag	accacagcag	180
gcattcaggt	ggaggggatg	aactccattc	attccagctg	tgcagtggga	catctgcgcc	240
ctccgcattc	cggctcattc	ctcatctgag	ccactcaaga	gggcgggtctg	gtaagtgtca	300
tctgaattca	gcttctgaat	tccaatgatt	tctccccctc	cgtgtctctt	catccgagtc	360
aaaaggcagt	aaacaagaga	atagttgacg	gccacaatgc	tgaaggcagc	aggtagtgcc	420
agcagaaaac	catggtgatg	aacatgaagg	tggcatcatc	cttctgggcc	attcnggtgg	480
tncaaaagg	gggaacngga	caaaccncaa	ttttgccnaa	ccangttccn	tgnaaaatga	540
ttaaactggg	tccggaaaaa	gttccagcnc	aatggnggtc	ccggaaanat	cncncttng	600
ggggantctt	acnccnccct	ttgaaaaggg	ctttccncng	gaatgaanng	aatnncttgg	660
nccaacggaa	ggcccgtttg	nggcntngta	atn			693

<210> 349
 <211> 299
 <212> DNA
 <213> Homo sapiens

<400> 349						
cgagggtacat	tctctaaaaa	ttgttactga	ctggtaagaa	atagacctga	gtttttat	60
ctaacaccca	atcactaaac	cacggcagca	agcactggcc	accgatttaa	tggattacga	120
cacaggaaac	cccattcagg	ttctatgtaa	tttagtgata	ctcatgtcac	taatattgag	180

cattatactt	gatctgcatt	atattgttga	tatgcagagg	ctaaactagt	catcatttgc	240
tctttcatct	atcagtagag	tccaaagttg	tttgcttgaa	tggactacat	gttaaagggt	299

<210> 350
 <211> 622
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(622)
 <223> n = A,T,C or G

<400> 350						
actgtttacc	agatctttgc	agatgaggtg	cttggttcan	gccagttngg	catcgtttat	60
ggaggaaaac	atannaagac	tgggagggat	gtggctatta	aagtaattga	taagatgaga	120
ttccccacaa	aacangaaag	tcaactccnt	aatgaagtgg	ctatnttaca	gaatntgcac	180
catcctggga	ttgtaaacct	ggaatgtatg	tttgaaaccc	canaacgagt	ctttgtagta	240
atggaaaagc	tgcattggaga	tatgttggaa	atgattctat	ccnnngagaa	aantctggct	300
tccagaacga	attactnaat	ncatgntcac	acagatactt	tgangccttt	gaggaatctg	360
catttttaaga	aatattgggtg	cncctgggnatt	taatancnna	aaaagggctg	cttgcacaa	420
tagaanccat	tncttaggtn	aagctngtat	nactntgnat	tgcacccctc	atttgcngaa	480
atgtcnttcn	ngnnaactnt	ggtacggaac	tcctccatnc	ttatcccngn	aagttntccn	540
gagccanagg	gtncnacnt	atcctatana	nnagntcnnt	cnggacntna	tcnnctttng	600
ggnnccntag	tggccctttn	cc				622

<210> 351
 <211> 574
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(574)
 <223> n = A,T,C or G

<400> 351						
gctttaacaa	tagcagcaga	caaagggtcac	tacaaatttt	gtgaactcct	gattcatagg	60
ggagcccaca	ttgatgttcg	taacaaaaag	ggaaatacgc	cactttgggt	ggcatccaat	120
ggaggtcatt	ttgatgttgt	gcagttgcta	gtgcaagcag	gtgctgatgt	ggatgcagca	180
gataacogga	aaatcacacc	tcttatgtca	gcatttcgca	agggtcatgt	aaaagttggt	240
caatatattgg	taaaggaagt	aaatcagttc	ccttctgata	tagaatgcat	gagatacata	300
gcaacaatta	cagataagga	actgntgaaa	aaatgtcatc	aatgtgtcga	aaccattgtg	360
aangctaaaa	gaccacaagc	tgcaaaaagca	aataaaaatgc	cagtntcttt	taaggaactt	420
gatctggaaa	agtcaganaa	agacngaaac	agctttgtgt	aaagagaaaa	gaangaaaga	480
gnaagaatag	agaccgaagg	actgagaata	naacactagg	atcgactcca	gtaataagga	540
ttaattgnaa	ntctaacttt	nccctcatga	ttgn			574

<210> 352
 <211> 399
 <212> DNA
 <213> Homo sapiens

<400> 352
 ggtacataat attccagtag gaaactgctt ccaagtttaa gcatgagctc cccaaactgg 60
 agaaaacata ttttgctatt ctgagacaac aatcagaata cagactttgg attccaggtc 120
 acagtttgct ttttagacaa ggtaaagcaa agaaagccac attgtgcat cttcagctcc 180
 agtggcttta gcagtgactg tttgacataa aacatgtaag aattgcttgt tgggaagagt 240
 gcttttaggga cccactgttt tcatttcttc ttggagttta ccttgtttca gatgcagcca 300
 tgggtaggtc agagatggac tggtgggtgca ataaacccaa gaatcaatgt agcctcttaa 360
 tcccatcaag atgtagtttg tagcagcaaa agtgtagctt 399

<210> 353
 <211> 727
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(727)
 <223> n = A,T,C or G

<400> 353
 ggtactttta cccatttcca gttccacctt tactttatca agtggaaactt tctgtgggag 60
 gacagcaatt taatggcaaa ggaaagacaa gacaggctgc gaaacacgat gctgctgcc 120
 aagcgttgag gatcctgcag aatgagcccc tgccagagag gctggagggtg aatggaagag 180
 aatccgaaga agaaaatctc aataaatctg aaataagtca agtgtttgag attgcactta 240
 aacggaactt gcctgtgaat ttcgagggtg cccgggagag tggcccaccc cacatgaaga 300
 actttgtgac caagggttctg gttggggagt ttgtggggga aggtgaaggg aaaagcaaga 360
 agatttcaaa gaaaaatgcc cgccatagct gntcttgagg agctgaagaa agtaccgncc 420
 ctggcttгна ttggaccgaa gttaaggcct anaatccaaa tgaaanaccn aaanccctt 480
 ggtncaanng cncagacccc anggccccat aatttttttg cncngggggg attcaaatnn 540
 cctttttaan cncgacttg ggnccncnaa attcncgcen ggggcnnaa naaaggggta 600
 naaaggggan ccccaanagt tacccttgnc ccngggcnng ggnccgtttt tnaaaanggg 660
 gtcnaaantt cccatntcnc attggggggg gcccgttttc ttagggggaa tcccagagctt 720
 tggggnc 727

<210> 354
 <211> 411
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(411)
 <223> n = A,T,C or G

<400> 354
 ggtaccatag gtcatttctg gccgatagtc tgaatttaca gccattgct ggtgaaagtt 60
 tagtaatttt aaattgttct tgtgagccca tgtaacactg acaaaattct ccatttcctt 120
 ttccttcac ccatctaat acaaagtttt ggattttaga accattgtca ctagggtgctt 180
 tccattgcaa agtgagtga tttttgggtcc gattggctat ccttggtgga ttaggtatat 240
 cagggttcaca gctcaagggt gtaaagattt cagcctctga aggagttccc tttatagaat 300
 tatattctgc ctggactttt gcatggtaat ccatggctgg cttgagatca tttaaagtga 360
 tatttgnctt ttctctacat atacactttt ggatttccca tcttttccag t 411

<210> 355
 <211> 331
 <212> DNA
 <213> Homo sapiens

<400> 355
 ggtactttttc tctatctgat tcagccattt ctgccagagg gaaaagggtcg gcagaaaaga 60
 tgtattgagt gaatagttaa ggataggatc tttgtccaaa aatttcagaa agattgagca 120
 aatctgacgt attcattgag tgagtttctg tgttttcaaa ggtggaggag aaatttgtgc 180
 tggaagtgtt taagcctccg ttttcttgga aatcagtcctg taacactggc aagtcttaag 240
 atagtcccgt ttagactttg cagatgctga acctggctct gtaacgctgg gaagtcttaa 300
 gatagtcctg ttttagacttt gcaaaccctg t 331

<210> 356
 <211> 678
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(678)
 <223> n = A,T,C or G

<400> 356
 ggtactttttt aattcagcac cttttcaaaa tatgtgctgg gatggattct tcttagggaa 60
 agccccatat agaattctca ttttggagca tcatttttat atgctatctc cccagtgtat 120
 cttctcaata tttataacac tttatgaaat aaatattggg ttgcctgtaa gaagagaaaa 180
 atatagtctt ttctgagaaa gagcatttgg cttgcagttt acagcaagag ctgaaattag 240
 agaccatagg gatttccaag accaatttga ccagaaatac aaaaattctg atgtcaaaaa 300
 ccctctcaca aaatttaaca ggtagaaatt atttttagcag tatagcctga aatccagtgc 360
 aacaaaaatg natcccaatt ctatgatatg ncataagtat gntctcttan ctggcttncc 420
 ttacttggtc ctactcccta cttggacctt tngggaagaa aatggtcggc ccaancccat 480
 ctttcaaatt ttcnaattcc ttaatatgga acccttagcc atggaataac caggggcnct 540
 aaagttcccc ccatttaaat aatgnccctt aatntggnaa anggcttgaa ancctggnc 600
 aaagggctgg ggtcttttaa gccctttgaa ggttaacctt caaaaggggg aaaaaacnt 660
 ttttttttta agttgggg 678

<210> 357
 <211> 414
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(414)
 <223> n = A,T,C or G

<400> 357
 acaccgagaa ccataatgaa aaaaccttcc gtgtgttttg tcatgttttg ttccagggaa 60
 gcagttgatg agtgctgtta ctaatgcttt ctcccagatc cattcagtgg tggagaggag 120
 gaaaatgggc tggttggatg tggcttgggt gccttgcagt tactctgcac tggttatgca 180
 ttttaattctc ctcttttcta gttaaccttt tgccagtggg ttttccatag tctgggtatt 240
 tgtccttata tcagttatac cacctaagge aactgggtgc aaaatgcatt ctgttcactc 300

actgtctgagg ccttccccac cctagtcttg gcacattcct tcaagaatgt agttaccgtc 360
 tgcttgggaa gatgtcagt ccaatgtgaa gataatgggc atcggnaaac ccct 414

<210> 358
 <211> 633
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(633)
 <223> n = A,T,C or G

<400> 358
 cgaggggtact tcaaagaaag tcaaattccta agcctgcccc ggcccaaaga caaagccagc 60
 caggacctga ccacctgtat cctcttggtg gcaatctgct gaagccagat gagttctgct 120
 ttttaattcc aatcctattc tgccactgaa actaggcctg ggcaaccact cttaatcatt 180
 aacatatcaa aaggagtatc tcctctgaga aaagagcttt tctcagggtc tagaagctag 240
 cttttacaaa agacgtcttc aaataggggc cgggtgcagt ggctcacgcc tataattttg 300
 gcacttttagg aggtgaggtt gggaggattg cttgaggcca ggagtccaag accagcctgg 360
 acaacgtagt gaaacatcta tttctaccaa aaaatttaaa aaaggaaaaa attatgtcct 420
 aaaatattaa anggnacatta aaangggcca ctngaacttg gaactttggg gaacttagtg 480
 caacaacccc ttgccggana gaagaanctt naaccagctn ttgaattgcc nggtcaaant 540
 gggtttatatt aaaaccgata ccactttttt ataatccttt ggnaaatnaa ctgtaagccn 600
 tttttccctg aacggaccnt gcctgccccaa ttt 633

<210> 359
 <211> 635
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(635)
 <223> n = A,T,C or G

<400> 359
 acagattctt ttagaagctg gggcagatcc taatgcaact actttagaag aaacgacacc 60
 attgttttta gctgttgaaa atggacagat agatgtgtta aggtgtgtgc ttcaacacgg 120
 agcaaatgtt aatggatccc attctatgtg tggatggaac tccttgccacc aggtctcttt 180
 tcaggaaaaat gctgagatca taaaattgct tcttanaaaa ggagcanaca agaaatgcca 240
 ggatgacttt ggaatcacac ctttatttgt ggctgctcag tatggcaagc tagaaagctt 300
 gagcatactt atttcacgg gtgcaaagt caattgtcaa gccttggaaca aagctacacc 360
 cttgtcattg ctgctcaaga gggacacacc aaatgtgttg agcttttgct ctccagtggg 420
 gcagatcctg atctttactg naatgangac agttggcagt ttcccnatca tgccagnttg 480
 cccaaatngg gccntncaaa aatcttgga ttggtaatnc cccttaactn accgggncct 540
 gggacccttg gcttaaccaa agtnagnctt tgtaattaa naaagggttg ggggncttga 600
 aaantgctn naantnttct ccggaatggg tteng 635

<210> 360
 <211> 403
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(403)
 <223> n = A,T,C or G

<400> 360
 aggtgaaagt tcaccgagtg gtgctatggg cctgtccggg tgtcgctgta tgacctggct 60
 tctgtggaca gctgtgagga gaactcagtg ctggagatca ttgcccttca ttgcaagagc 120
 ccgcaccgac accgaatggt cgttttggag cccctgaaca aactgctgca ggcgaaatgg 180
 gatctgctca tccccaagtt cttcttaaac ttcctgtgta atctgatcta catgttcatc 240
 ttcaccgctg ttgcctacca tcagcctacc ctgaagaagc aggccgccct cacctgaaag 300
 cggagggttg aaactccatg ctgctgacgg gccacatcct tatcctgcta ggggggatct 360
 acctcctcgt gggccaactg tggtagctng ggccggacca cgc 403

<210> 361
 <211> 631
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(631)
 <223> n = A,T,C or G

<400> 361
 ggtacaagct tttttttttt tttttttttt tttttttttt cgtttttaaa aactcggggt 60
 ttatncaata gaatgttttn tagcanatgc ctnttgtttt aatatattaa aattttgcaa 120
 agccttttga gctactgcct tagtctaccc actgtccttt ngttatgagg tanaggatnt 180
 catgacacca tacacacaaa cccatcattg cctgtgaatg cacgtagggc canaattcct 240
 cagttcccgc tcctctgagg gttgatactg ctgggaatgc caaccantnc acaagcanag 300
 ggaagcccn tcaggcctnc aggaggagcc gcagcagggg gtccaattna aaccagcngc 360
 aaaagagcct gacattttcc catccatnta tgaggaaagc cattttacag aacntggaca 420
 tagggcactt gnttttccca cacnaanggg atgggaattt tctacctata gncattcctt 480
 gnacttctgg anttactcan gaccanggnc caactaaang gcaaaaccct tttggntcct 540
 taaccagaaa agcantnctn nggactgggg acctncccg gnggccttt aaaggngaatt 600
 ttcnnnnntt ggggcggtnt aggggaccan g 631

<210> 362
 <211> 660
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(660)
 <223> n = A,T,C or G

<400> 362
 ncnggtacct canttgnctg cttacgctnn anccagcatg tgtgagctag gtcatttntc 60
 gcaagccagg caaccacacc agngtataa cctcaagcaa atgtnactcc naagcccnan 120
 atgggactaa ggcctttgct gggctaggcg tgggtgtaaan cccangcctg naagctnnta 180
 cccaaccnta attagtntca ncttactntc aatatgtgca tantttcata aagcacacat 240

tnnecatgagg	aaaagangat	ggtggtgaaa	gggnaggggt	gangggacat	nttcaagtca	300
canaggctgn	anaactcagc	atgacttgtg	gacggaccac	aggncatnca	gggnnacaac	360
acngacataa	ctcaaccagt	ggtnaacngn	tctaaaccag	ggtnaacagg	agangggacc	420
aaangnaact	tcttggaatt	ngctgcaagt	ttaaaagata	agttctacct	tagctttaag	480
cttagncctt	tatgggggca	aaaaaanggn	aaagtcaatt	cttgccncaa	atccaagctt	540
gggccngcca	aaaaagggaa	atnggggttn	ttagggccca	aaacctnaat	tgagntccca	600
aggnttcaag	gcccaggcaa	attgnaaagt	tcctgccttn	aaagcttggn	ccaataaaaa	660

<210> 363

<211> 486

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(486)

<223> n = A,T,C or G

<400> 363

ggtaccttca	accttctcta	ttttaatctg	aggggaaatt	aagagaatct	caaaagttac	60
tacagagttt	gggtaggcta	gatacattta	ttaatagtaa	aagcaaccat	ggcaaaagca	120
accatactca	ttcttgataa	tgaaggatc	ttctatatac	aaacctagca	aattaaaaaa	180
aaatactaaa	acaaagtgtc	tgaagataat	gaaaggcagt	tcaattcatg	taatgtcaag	240
taactttcaa	ttgtaataga	atcatttata	ttcttatagt	gccttacagc	atattttatc	300
gttaatgaga	aaatgaacca	aaactatagt	gctaaccctg	aaaccttaaa	ccgaacctta	360
caaagttaaa	gactaagtgt	tggtcagaag	gaaaaggatg	caccatgcac	cttcacaggg	420
aaaaatgaaa	atagcnaaga	tggcagaaat	gcctgaactc	atgggtacct	gcccggcggc	480
cggtng						486

<210> 364

<211> 686

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(686)

<223> n = A,T,C or G

<400> 364

ggtgctcgga	ataacttcct	gcagcgacca	acaggctaaa	gagggggaag	gtctggagggg	60
atccagcacc	ggctcctcct	ccggcaacca	cggtgggagc	ggcggaggaa	atggacataa	120
acccgggtgt	gaaaagccag	ggaatgaagc	ccgcgggagc	ggggaatctg	ggattcagaa	180
ctctgagacg	tctcctggga	tgtttaactt	tgacactttc	tggaagaatt	ttaaataccaa	240
gctgggtttc	atcaactggg	atgccataaa	caagaaccag	gtcccccccc	ccagcaccgc	300
agccctcctc	tacttcagcc	gactctggga	ggatttcaaa	cagaacactc	ctttcctcaa	360
ctggaaagca	attattgagg	gtgccgaccg	cgtcatcact	gcagaaaccg	tgcaaggcag	420
aaccgatca	gaactacca	ttccaccagc	atgccgtatt	cccacttggc	ttattgggtg	480
ggaaatacct	tgccngggcn	ggnccgttca	aangggcgna	anttccagct	cacttggccg	540
gccggtactt	aatggggatc	cnaaactttg	gnacccana	cnttggggcg	nnaatncatn	600
gggcaaaaat	tggntnnncn	tgggggnaaa	atggtaatnc	cggttcacaa	nttcccccca	660
atcttctann	cccgggaagct	taaagg				686

<210> 365
 <211> 639
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(639)
 <223> n = A,T,C or G

<400> 365

ggtacatcct	aaagcattct	ggtacaaatg	aaatggaact	gcctcttggtg	ggtctatttc	60
agaagtctgt	tgtcagagtt	cagttcacag	gcatcaacca	gaagcctagt	gaggccggtt	120
gaaattctgg	cccagattaa	tttttttaaag	ctgcatttgg	agcttttttaa	agtcgagctg	180
tttccaaagg	cttaactgaa	gagtaactga	tttctactgga	aataaaaagtc	cacatgtgat	240
cccagctgga	gtgtgggtcat	atTTTTtcttg	caaacctaga	atgtcttggg	gaacaaacgg	300
ctgtcacgtg	tccccttcca	aaaatgtctt	aaacaccgga	aaggagggca	ggctaagggtg	360
tagcccttcc	caccctgggt	gccagggttg	gggggtgctat	aagtgaaata	tcaaagcttg	420
aggcactaat	attctgaatt	tcagcctcaa	agganggann	gtntcnngaa	tcnangaagg	480
aggggaagg	cccaganacg	gggaatggcc	tggatgggat	naatccanna	cntggggnaa	540
agctgggttc	ctgaataatg	nggtcntggg	gaccttgccc	ggccggncgt	tcnaaaggca	600
attccacccc	atggngggcc	gttactaagg	ggntccgcn			639

<210> 366
 <211> 586
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(586)
 <223> n = A,T,C or G

<400> 366

cgaggtacaa	aattgcagat	agtggcttac	tgagtttaag	atcaagatca	gacttaaact	60
caacaagatc	accaaaggta	tttctactga	gttttctctat	gtcccacagt	aagctggggtt	120
agagagaact	caaattcctg	atggaaaaca	aaaccgaaca	aaaaaactag	aaaaaaaagg	180
tgttaaaaat	gctgtgtaag	ttgctgcaaa	aggggaaaaaa	gaatagacac	taactccatg	240
taatttttaga	catgcagctt	ttgtgttttt	ttttgttttt	gttttttttt	ttttgaaaaa	300
aaccagttta	ttttgagatc	agtgaaaaga	gtctangcca	cagaaaagaa	cagctcttta	360
atgcaagtta	aaatgtgtaa	atgaatgacc	cgggacactt	gacaccttta	gatgcagact	420
tcattcggca	ctggttggct	cagacttgcc	ggcngccgtt	naaaggcnat	tcaccnctgc	480
ggccgtctan	tnggtccaac	ttgtccaact	gnnaanaggn	tanntgtctt	gggaaannnt	540
nntncattcn	cnntnaccga	gctaagntag	cggngnntg	nggnnn		586

<210> 367
 <211> 628
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(628)

<223> n = A,T,C or G

<400> 367

gcttcctgag	gagcaggcca	gaacggaagt	cttggtttta	tttatagttg	ataacttaca	60
tccggcctgc	tcctcaggaa	gcacagcagg	gaggagacag	agcccaaagg	agacggcgac	120
aaaaatgccc	aaacccctga	gctaattgtg	tgactgagag	caagcctaaa	gctcccttct	180
gagctcccca	gcagccaaag	caaagagaga	aacagggtcc	tgagcatga	tgacacagaa	240
aaccaggga	cctggagcct	gggttccaat	aagaacctta	cattctgacg	ccttagattt	300
ctccctggaa	aatggggaga	aaaatactga	attggttggg	agggccatgc	aacacaccca	360
gcacagtgtc	tggatgcatt	tcagaggccc	caccagtcta	gggtctacag	aaagacagta	420
ccttnggccg	ngaccacgct	angggcgaat	tccactcact	ggcgggcggg	tctaattggat	480
ccnacttcgg	accaactttg	gcgttatcat	nggcataact	tgnttcctgn	gggaaaattg	540
gtatcccgn	tcaaattncc	ccccanttct	aancgaannc	ttaangttta	aacctggggg	600
ncaaataagn	gcttacctcc	tattgggn				628

<210> 368

<211> 618

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(618)

<223> n = A,T,C or G

<400> 368

acaattcata	gggacgacca	atgaggacag	ggaatgaacc	cggctctccc	ccagccctga	60
tttttgctac	atatgggggc	tcttttcatt	ctttgcaaaa	acactgggct	ttctgagaac	120
acggacgggt	cttagcacia	tttgtgaaat	ctgtgtagaa	ccgggctttg	caggggagat	180
aattttcctc	ctctggagga	aagggtggtga	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaaagcca	cgctcggcct	tctctgaacc	aggatggaac	ggcagacccc	tgaaacgaag	300
cttgcccctt	ccaatcagcc	acttctgaga	acccccatct	aacttcctac	tggaaaagag	360
ggcctttctca	ggagcagtc	aagagtttca	aaagatacgt	gacaactacc	atctagagga	420
aagggtgcccc	ttagcagaga	agcccagagc	ttactctggt	cgtttncaga	nacaactgnt	480
ggccttgcttg	ggatgcccc	agcctttgan	aggcccttac	ccattgacct	tttgccatcc	540
cttggggcatt	aacttnnggc	cttgggnntt	aancttgntt	gccttnaang	gncagggttt	600
gcttaanccg	gntgnnggc					618

<210> 369

<211> 443

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(443)

<223> n = A,T,C or G

<400> 369

gcagggcggg	cngcgggggc	ttggcgaacg	gtcttcggaa	gcggcggcgg	cgcgatgacc	60
acgctacggg	cctttacctg	cgacgacctg	ttccgcttca	acaacattaa	cttggatcca	120
cttacagaaa	cttatgggat	tcctttctac	ctacaatacc	tcgcccactg	gccagagtat	180
ttcattgttg	cagaggcacc	tggtggagaa	ttaatgggtt	atattatggg	taaagcagaa	240

ggctcagtag	ctaggggaaga	atggcacggg	caccgtcacg	gctctgtctg	ttgccccaga	300
atctcgacgc	cttgggtttg	ctgctaaact	tatgggaagt	actagaggag	atctcagaaa	360
gaaagggtgg	atctttttgtg	gatctctttg	taagagtatc	taaccaagtt	gcaagtaaca	420
tgtaccttng	gtcgcganna	cgc				443

<210> 370
 <211> 636
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(636)
 <223> n = A,T,C or G

<400> 370						
acatttgttt	atttaaagca	caggaaatga	ataaaatgcc	acctaaaaag	tatctgcaat	60
gaataaatta	tttccagtga	agcactgcag	atccacacac	accagtctgc	taacctttac	120
caaggccatg	tccgggtggg	ttgtgcttgt	tccagttgac	tcttccttga	gacctttccc	180
ttctgtgcaa	tgaccacagc	attagagacc	agtctctgat	gcgctggcct	tcctcgtagg	240
catggcagac	cacgtggatg	agcagtgggc	tggcatgcag	taggcttnaa	caaatggcac	300
ttcactgttt	ccagtgaccc	tgaaatgttt	tacgtaagtg	gggcctgggc	tttaaagaaa	360
agagccaggg	ttcctcaagc	tgggccccct	tacttgaggc	cagcttcagg	aaatactggn	420
cttaaggagc	cagcaacttg	tccaggagtt	ttgagccctt	antttgaagg	aaaatggccc	480
cttggngtcc	ntgcaagcac	cagnnatttc	cgtgatngtg	ancaagtnac	cnnccttaag	540
ggaaggccaa	tcccnccttg	ggnggantcn	agggcnctan	tcctgtttgg	aagggcttga	600
aggttgggaa	tntttaaaat	ggagggnntng	gcttcc			636

<210> 371
 <211> 615
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(615)
 <223> n = A,T,C or G

<400> 371						
ggtacaagct	tttttttttt	tttttttttt	tttttttttc	tgttaaagaa	tgctttatta	60
atacaaatat	acacaaactc	tgaagcacta	anaaatattaa	atatctatgt	cacagcaaac	120
aggtggcaat	tcaacatcca	gggtcgacag	aatgcttgaa	gganactgca	acagattgga	180
ttcccatggt	gganagggca	tnttcacagg	tgaagggggg	cccagctgaa	acagcttttc	240
aagctctctc	tcctcgtcaa	ggatcatgag	aggcactcca	ctcaagggga	ggtgcgcaat	300
ctggtgctct	tcaggcaggt	caaaaactctc	aaagtctaga	ggattgaagg	gaaagaattt	360
ttctattttc	ggataggcat	catctgaggc	aggaacagag	ctttttgctt	taacagtctt	420
ctcagtcata	ttttttggca	aaaaagcttg	gctgggtttg	tttgangggg	tccttgggct	480
ttacagactt	ttctgnaact	ctgttgacca	gnttcccaaa	gcctttttta	gtaactttta	540
ggtaaggctt	ntgggggcat	taaacctttt	tccaaacctg	gggttgaaac	ttggaaccnc	600
ctttaagggt	ttgnt					615

<210> 372
 <211> 612

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(612)
<223> n = A,T,C or G

```

<400> 372
actttttttt tggttctagga atgagggtag gataaatctc agaggtctgt gtgatttact      60
caagttgaag acaacctcca ggccattcct ggtcaacggt ttaagtagca tttccagcat      120
tcacacttga tactgcacat cangagttgt gtcacctttc ctgggtgatt tgggttttct      180
ccattcaagg agcttgtagc tctgagctat gatgctttta ttgggaggaa aggaggcagc      240
tgcagaattg atgtgagcta tgtggggccg aangtctcag cccgcagcta agtctctacc      300
taagaaaatg cctctgggca ttcttttgaa agtatagtgt ctgagctnat gctanaaaga      360
atcaaaaagc nagtgtggat ttttagactg naattaaatg aggcnaaang atttctattc      420
ccagtgggaa agaanaacct tctactgaag ttgtgggggg antatgttng aatgttagag      480
agaaccctta aggnntnctt tgattggccc ttggagaccg nttggannac atnncccgga      540
attnnantan aaattntttc nggnttnaag tttcccntgt tngtngnann ccaacctngt      600
ttttgcccc cc                                          612

```

<210> 373
<211> 638
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(638)
<223> n = A,T,C or G

```

<400> 373
ggtactcagt atttcaaadc atgaacacaa gattggaact tttggaaaaa tgggttcaag      60
ctttcctatt agccatggaa atgcaaagtt tagcagaagc aagcaattag gcagagaaca      120
aaaatgttaa gcatggtggt gtctatctta ttgaagtggg tggaaatgaa agcttttaat      180
ttgatagatt tatcagtata aaattaggga aaccacgtgt ggggaatgaa tcaatttaga      240
gcttcgggaa ttgtgagggt acttttgtaa cttttgttct gtgtgtgacc tgtgaaccac      300
tagatgtgat ctgcccttgt gggcagggtcc agcatagtta ggagttaggc tttancataa      360
aattctagct gcatctgagt ctctgggat ggggtgctct tggctngttt tggcctgccc      420
gattggtgag atccaganc agctttttcc tgctgcttgg cccctnncaa ttaatttggt      480
gggattgcca gtgcnagaan accttagttg taaagaattt taatcctacc ncgaccnagt      540
tccaaaangc ngggttttga atgtgggaan tttnnnaatt ttcccttana aagtctaaat      600
tttgtccngt tanactnttg gttttaaagg gaagggaa                                          638

```

<210> 374
<211> 503
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(503)
<223> n = A,T,C or G

```

<400> 374
ggtacagatt aacttaacac aaaaacccga acttcaaaat gaagggtgtgt ggaggaaagg      60
tgctgctggg tctccctaca actgttcatt tctttgtgag gcagggggta gttcctgaat      120
ggctgtgggt caatgactaa tgtaaaacaa aaacagaaac aaaaaaaaca aggaactgtc      180
atttccacga aagcacagcg gcagtgttc tagcaggcct cagggccctg ggcctgggga      240
ggctacatga gggggagcct cagtcacagg atcaacctgg ggcccgaagg agcagggttc      300
cctgcctctc cctctgcaac agatcatccc atccaacaca acccccacaaa tgttgatgat      360
gacgcaacat ggtcaaccct caagaccttt aagacaaaac agagcagcat agggaaaaaa      420
aaacaaaacg caccaatttc tgcattgtgc aatggtaggg caccntttta aaaaagtctg      480
tctaaaacan nctntgttta ctt                                     503

```

```

<210> 375
<211> 611
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(611)
<223> n = A,T,C or G

```

```

<400> 375
ggtacaaaag ctgttgaact taatcccaaa tatgtgaaag ctctcttttag acgtgcaaaa      60
gcccattgaga agctagacaa taagaaggaa tgttttagaag atgtcactgc tgtgtgtata      120
ttagaagggt tccaaaatca acaaagcatg ctgttagccg ataaagtctt taaactcctt      180
ggaaaagaga aagccaaaga aaaatataag aatcgtgaac ctctgatgcc atctccacag      240
tttatcaaat cttacttcag ttctttcacg gatgatatca tttcccagcc catgcttaaa      300
ggagagaaat ctgatgaaga taaagacaag gaagggggagg ctttagaagt gaaagaaaaat      360
tctggatact taaaggccaa acagtttatgg aagaagaaaa ctacgatana atcataagtg      420
aatgcccana aaaaaaaatn atttaaaaaa aagcttgtcc ctgccggccg gccgttcnaa      480
agggcgaatt canctccctg gngggcggtg ctannnggat ccaacnttgg gccaaccttg      540
gngnaaacan nggntatant gtttcctggg naaatggtn tcnngttncaa tccccnaatn      600
ntnngnccgg g                                     611

```

```

<210> 376
<211> 601
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(601)
<223> n = A,T,C or G

```

```

<400> 376
cgaggctctt tctctctttc tgtcttcac ccagatcaaa gaatcccgag ttaggatctg      60
gatgaaggat aagcccctga attgtcgatg ggctcaccac cacactgacc cagcatctga      120
acttgcttaa cagggagccg gggctaaact gcttcaccct gcctgagaac cagggagcac      180
tgcatctctc cacaggggtg aggagaagag gcagaataaa ccaagcctgg gacacctccc      240
tcctgtctag gtgtacagca cacagggtta tactcttcac cctcatcctc tccgtcagca      300
ctatctgctc caacctcctc ataatecttc tcaagggcag ccatgtcctc acgggcctct      360
gaaaactcgc ctggaccaca aagtttgacc tgatgtatgc caagccgtgc ctttggtcac      420

```

tggnacctgg	ccnggccggc	cgttcaangg	cgaattccac	acactggcng	gccgtactan	480
tggatccnaa	ctnggaccag	cttgnngaata	catggcatnc	tggttcctgg	ggnaaatggt	540
atccggttaca	attccnccan	ntcnanccgg	aacctaaagg	gtaaacctgg	ggngctaata	600
a						601

<210> 377
 <211> 621
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(621)
 <223> n = A,T,C or G

<400> 377						
ggtacaagct	tttttttttt	tttttttttt	tttttttttg	tctgttcaag	aaccagtctg	60
ggatcttgta	cccagctcta	attactggcc	gtagcagcat	attgcttaan	aattttgtag	120
aacttatttc	tcatacagcag	ctgtccaaag	gactgataaa	tagagacaga	tcccagtcct	180
ggatactttc	tgtaaatcct	aatcggagac	tcacttntna	gcaatggagg	ctgaaagtct	240
tagtgagact	cagtaaattc	cttnaggcct	tggcagatgg	atccagtagg	ttgagagaaa	300
gtgaaggact	tcaggaacag	aaagaaaatc	cccatgccac	tagcaactcc	atttttatna	360
actggaagga	acatgccaac	gaccagcaac	acatccaggg	tttatgaaaa	tggggggttca	420
cagncnaaat	gtcngntcca	agttcaggct	ncnggatttt	ggtttggagg	actgaatggt	480
gtggattaaa	ggcttncatt	ttcttgnac	cttgaaaggg	tttttnggan	aanaattcnt	540
tgntaatgna	agctnggttt	aaacttgacc	tngcccgggn	gggccnttca	aaagggcgna	600
ttncgcncn	ttggggggcc	g				621

<210> 378
 <211> 327
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 378						
acatctccga	cagtatctgt	ttcagcatct	ttgcncttct	gaagtctttn	atacttgtgg	60
caaaagttcc	tgaaactggc	ctccangtgt	ccctccacct	gtgctggcac	ttgggcgttt	120
ccacnaaact	tcccaaacag	ctcacaatcc	tggctgactg	ggacaataat	tcagcaaact	180
ggctactcag	acctggcacc	aaatgtcctg	tccaaaatgc	tgttcactga	accagtgtctg	240
ggcgccccctg	ggcaggggtg	ctcgatcacc	cgccacatnc	acttggccgc	cagaagccng	300
nggggaagga	cctnnggcgc	acnacgc				327

<210> 379
 <211> 517
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(517)

<223> n = A,T,C or G

<400> 379

actcacaagt	aagaaacttt	ctctactgaa	ggatactgtc	acagagtttg	ttgcagagca	60
tctatatata	tatttattna	tttattttta	aaaantaaac	aacantgatg	aacganccca	120
ggttcctaga	accaattctc	ttgattctct	acttccacaa	aataaagtgt	atcatttggc	180
caagactaca	gatgtgtttt	tnttttttca	canatgcaag	tgccatgcaa	aaataaatta	240
aagaacagat	accaaaacat	acatgtgata	aaactacana	tggtagattt	ttaaaggcat	300
ttatataaac	ntaatttata	aatacttctc	ttntngcctt	tatatacagt	cncaaantcg	360
gntgtttatac	atntaggatt	tcctntgcnt	gaccttnggc	cgtnacnacg	nntaagggcc	420
gaattctgga	agattccatc	tacaattggc	ggctcgtttn	tancatncct	ttntanggcc	480
caatttngnc	cnntannnga	gtcngattac	aanntcn			517

<210> 380

<211> 351

<212> DNA

<213> Homo sapiens

<400> 380

acgctgtgga	gggctgcagt	gctcgtggat	tcaaaatcac	agagggctgg	taaatggcag	60
cttctgtagg	aataactgca	gcaggagctg	gaaatgtgta	ggagggagga	gacaggcatg	120
gtaacttaca	tggcggtggg	gataagccat	ttcgatttaa	agtgcceccc	attaacacaa	180
agttcatctc	ctcagctgaa	cactgaaaga	cttcaacata	tctgtccttc	atgttttttt	240
atgacacttc	tgtgcagcca	taaatgctct	gtccgcagac	ttcatctgga	taaaggcatc	300
tcctgatggg	cggccctggg	gattcaaaac	catgtgaacc	ccatgagtac	c	351

<210> 381

<211> 622

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(622)

<223> n = A,T,C or G

<400> 381

acacttccaa	ttgtccatat	aattaagctt	tccacaatct	tacacaccca	tcattctcctg	60
aagatgctag	caccgttcc	gttatattcc	aactcactcg	ccagacctga	gaattatgat	120
tatcgaactg	agccactata	tggatttcaa	actttgttgg	cccaccagag	gaagtcagtt	180
ctttcctcac	aggctttaat	gtaaaaatc	tcacatcttt	ggtcgctatt	gctagaatat	240
ggaaagatct	tcccaaattt	ggagcgaatg	caatatcatg	aacaggatca	gtgactgtca	300
taagagtttc	agcttttgca	tatttcctgg	tgttttcatt	atattcaaaa	atctgaacct	360
tggccattgc	gttggggcta	ctgncatcac	tttctacggc	gatcatgggg	gaatgagcac	420
gagagctttg	naggggtnc	aagaaatnca	cttccagctt	agcttacttg	aganctctgg	480
ctggnaaaga	cccctnggct	gagaattcnt	aaccatctgg	ggccctcaaa	nantcttacc	540
tttccattng	nggacaaggt	ggttacttag	aaccccnngn	cttgggacca	acttncntt	600
cggtnnkana	gttttggtnt	cc				622

<210> 382

<211> 509

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(509)

<223> n = A,T,C or G

<400> 382

ggtactctca	tcccgcctcc	attcaggctg	atagtaacag	cctaggtaga	gtcaacacat	60
aaaaaagtgt	aattccaggg	gaggaggatt	agaataagga	cacaaaggaa	gggaggaaaa	120
tgttctttga	ggctgaaatt	ccattaattt	ttcatagtat	tgagtttata	tttgccattg	180
catccttcaa	tctttctaaa	aaggaaatcc	ccggaacata	ataaaatctc	ttctgtatag	240
aaaagctaca	gctccacact	aagaggaatg	ccgtctgcct	taaagaatgg	aatcatcagt	300
gaccaagaat	tacttccaag	gagaaattca	ttgatattaa	aaccaaagcc	agatccagct	360
cagcaaaccg	acagccagaa	cagtgatagc	gagcagtatt	ttagagaatg	gtttccaaac	420
ccgccaacct	gcacggtgtt	atttctgcca	cgtgtctctg	gaacacacat	taaactgtgg	480
aaactnnctn	ctttccgctg	gggggtcccc				509

<210> 383

<211> 380

<212> DNA

<213> Homo sapiens

<400> 383

acaattccac	ttatccatac	tattccttta	taaaaggcag	atttcaggta	agcttctaaa	60
tgcattgcgt	atgtagaggg	taatatcttc	tggcagtcct	tggttcctga	aatttgaact	120
tcataatgtg	tttaaacttt	tgtcaaaata	gtcatgaaag	atatgttatt	tttgcataat	180
gaggtaatat	atcagggggc	ggcactcata	agacagtata	aatccacttg	tctaaacttg	240
catgaggctg	tgtgcattgt	aaaatgccat	aaagagtttt	gggtcaagtg	aatattttgc	300
tgaaggaata	acacttacat	ttaactgagc	acttttctgt	aataaatacc	aaagtagggt	360
tttgtagctg	taaactgtgt					380

<210> 384

<211> 317

<212> DNA

<213> Homo sapiens

<400> 384

ggtcccagac	ccaagaccaa	ccgatggagg	aggaggagggt	tgagacgttc	gcctttcagg	60
cagaaattgc	ccagttgatg	tcattgatca	tcaatacttt	ctactcgaac	aaagagatct	120
ttctgagaga	gctcatttca	aattcatcag	atgcattgga	caaaatccgg	tatgaaagct	180
tgacagatcc	cagtaaatta	gactctggga	aagagctgta	tattaacctt	ataccgaaca	240
aacaagatcg	aactctcact	attgtggata	ctggaattgg	aaatgaccaa	ggctgacttg	300
gatcaataac	ccttgggt					317

<210> 385

<211> 275

<212> DNA

<213> Homo sapiens

<400> 385

acttttagtc	cctgtttttac	aggggttaga	atagactgtt	aaggggcaac	tgagaaagaa	60
cagagaagtg	acagctaggg	gttgagaggg	gccagaaaaa	catgaatgca	ggcagatttc	120

gtgaaatctg	ccaccacttt	ataaccagat	ggttcctttc	acaaccctgg	gtcaaaaaga	180
gaataatttg	gcctataatg	ttaaaagaaa	gcaggaaggt	gggtaaataa	aaatcttggt	240
gcctggaaaa	aaaaaaaaaa	aaaaaaaaag	ctgta			275

<210> 386
 <211> 606
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(606)
 <223> n = A,T,C or G

<400> 386						
ggtacatgga	tattcccaaa	ccattccatt	agaaaactgc	cctccctgca	cacacaacaa	60
aaacagcgct	atttcctaca	cctattggac	tgaaagtgc	tggaaatgga	atggtttttag	120
aatatgaaga	agaacacaaa	ccaagtagct	gtgggttgaa	cctggacgtg	agctggctgc	180
agggccgttg	ggtagaaaaac	cagcatctca	taaacaggtc	actacaaaaa	taggaagagt	240
ataaaaatag	aatatattat	gtcactat	cgtcttctct	ttatagtagc	gtatcgtagg	300
agtgggacag	gtggcctttc	ccgaccctgc	tacgctggct	ggtgcccgc	aaacctccac	360
tggatgggtt	gtcactggat	ggtttggttg	ggtgggtggc	acaggcgcaa	aggacatgca	420
cacgggcacg	ctcgctactg	naaccagana	gtgacttcag	cntgaataaa	ggngaaaagg	480
tccccatnta	ntcnggaat	tattncctnc	ccaggnccta	ttaaggggct	ttntggcttt	540
tnaccancca	agncccnccc	cttgaaangc	caaacttttt	tgaaaaaaaag	gganccttgn	600
atngnc						606

<210> 387
 <211> 339
 <212> DNA
 <213> Homo sapiens

<400> 387						
accacttgca	gtcaaatgaa	ttccttcgaa	atgtatttga	acttggaccc	ccagtgatgc	60
ttgatgctgc	aacgcttaaa	acgatgaaga	tttctcgttt	cgaaaggcat	ttatataact	120
ctgcagcctt	caaagctcga	accaaagcta	gaagcaaagt	tcgagataag	agagcagatg	180
ttggagaatt	cttctagatt	ttcagaactt	gaagactatt	ttctaatttc	tatttttttt	240
tctatttcaa	tgtattttaa	ctctagacac	agtttttatc	ctggattaac	ttagataact	300
ttttagtagc	tggttatatt	gcttataatt	taatgtacc			339

<210> 388
 <211> 667
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(667)
 <223> n = A,T,C or G

<400> 388						
taccagttgt	catcatagcc	ggagatggac	acttcaggag	ggtagcgtac	attcccatga	60
caccaatact	acagttttcg	gagtcacagt	aagatacaca	gaattacatc	cgtaattaat	120

atgaatgcc	acatgtcaag	cagtaatttg	ttacatggca	aacaaaatca	agaaagcaac	180
catcaaacaa	aagagaccca	tagcttcaga	caaggcaaat	cccaggatag	catatgagaa	240
cagctgctgc	ttcagcgaag	ggtttctggc	ataaccaatg	ataaggctgc	caaagactgt	300
tccaatacca	gcaccagaac	cagccactcc	tactgttgca	gcacctgcac	caataaattt	360
ggcagcagta	tcaatgtctc	tgctgattgc	actggctctga	aactcccttt	ggattagctg	420
agacacacca	ttctggggccc	cattaaatac	cgtagagccc	tctccagtcc	tactagcctc	480
tggtcgagat	aacactgatg	cagaaattgg	tctgtatgca	actctggatc	cagctcggat	540
cagagagggg	gtgcaggcga	gcttggcgca	ggcgaacatc	ttacactctt	cgggactgcg	600
cggctggaga	tattgggtga	caggcgacgt	gggctcctct	cccgttnct	ctctttccag	660
gaagcgg						667

<210> 389

<211> 613

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (613)

<223> n = A,T,C or G

<400> 389

ggtaccagtt	gtcatcatag	ccggagatgg	acacttcagg	agggtagcgt	acattcccat	60
gacaccaata	ctacagtttt	cggagtcaca	gtaagatata	cagaattaca	tccgtaatta	120
atatgaatgc	caacatgtca	agcagtaatt	tggtacatgg	caaacaaaat	caagaaagca	180
accatcaaac	aaaagagacc	catagcttca	gacaaggcaa	atcccaggat	agcatatgag	240
aacagctgct	gcttcagcga	agggtttctg	gcataaccaa	tgataaggct	gccaaagact	300
gttccaatac	cagcaccaga	accagccact	cctactgttg	cagcacctgc	accaataaat	360
ttggcgcag	tatcaatgtc	tctgctgatt	gcactggctc	gaaactccct	ttggattagc	420
tgagacacac	cattctgggc	cccattaaaa	taccgnagag	ccttttcagt	cctactagcc	480
tctggncgag	ataacactga	tgcanaaatg	gnctgtatgc	caactctgga	tccacttcgg	540
ttcaaaaagg	ggtgcaggca	acttggccca	ngcgaacatn	tacacttttc	gggactgccc	600
gnttggnnaa	tgg					613

<210> 390

<211> 278

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (278)

<223> n = A,T,C or G

<400> 390

actagtcctc	tagaaatagg	ttaaactgaa	gcaacttgat	ggaaggatct	ctccacaggg	60
cttgttttcc	aaagaaaagt	attgnttgga	ggagcaaagt	taaaagccta	cctaagcata	120
tcgtaaagct	gttcaaaaat	aactcagacc	cagtcttgng	gatggaaatg	tagtgctcga	180
gtcacattct	gcttaaggtt	gtaacaaata	cngatgagtt	aaaaanannt	cttttnttga	240
actctnanga	aaancttgga	ccttngccgn	gaccacgc			278

<210> 391

<211> 604

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(604)
<223> n = A,T,C or G

<400> 391
 ggtctttttt tttttttttt tttttttgaa cacagatcac tttattggca tggctttgtt 60
 ttaagaaaag gaaaagtga aaagccaaga gacagactnt gctaacagat gcctgggggt 120
 ggctggacat ttttgccctca tgctgtgcaa agaggggat cctggcccac acatcctgtt 180
 gattccttgg gacaagggtg tctgcctggg cctcactgca ccttcttgaa tacttgcttg 240
 canaccacac cttccactct natctncagg tgcagctcat caccctngat ccactgggtc 300
 cagccacgcc ccttcttctc acccttctga cacactggag cttgctccgt ccagtcact 360
 gtgtcatgca cttgcgggna tctatgcctg nagatcctcc taaactcctt tccaacctgg 420
 aagtccatga tgnantnctt aaaagngctc accgtggcgg angatcatat ggtcancggc 480
 ntgaacgaan tnttttggcg ggnttcanna agttgcccat ttttgcgcaa gggccattg 540
 gncgttnagg gcccangtnc tttgcngnnc ccctnagggn gaatccccac nttggggccg 600
 tntn 604

<210> 392
<211> 610
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(610)
<223> n = A,T,C or G

<400> 392
 acgaggggag cgagacgaaa ggagaacggt gattattcat gacaggcctg atatcactca 60
 tcctagacat cctcgagagg cagggcccaa tccttccaga cccaccagct ggaaaagtga 120
 aggaagcatg tccactgaca aacgggaaac aagagttgaa aggccagaac gatctgggag 180
 agaagtatca gggcacagtg tgagaggcgc tccccctggg aatcgtagca gcgcttcggg 240
 gtacttattg gcacaaattc gggcagcctc cagggttca gaggacagct gctcatattc 300
 atctgacacc atgtggccac aaagcggaaa ctcatccact tttgcctttt tccgccccag 360
 gtcaaaaatg cgaatccttg catcagggac acctcggcag aagcgagact ttgggtgagc 420
 ttgtttttcca tctaggggatg atgggagaca gtgacaaatc atccaccatt agatttttat 480
 aaggagcgca caaccagac aacccaaadc cctttggatg tgccagttca caatagtggg 540
 catgcctcca ttgagaatat aatggctctn gacttgccgg aaggcaaact taaggccata 600
 atgggaccng 610

<210> 393
<211> 314
<212> DNA
<213> Homo sapiens

<400> 393
 ggtcccagac ccaagaccaa ccgatggagg aggaggaggt tgagacgttc gcctttcagg 60
 cagaaattgc ccagttgatg tcattgatca tcaatacttt ctactcgaac aaagagatct 120
 ttctgagaga gtcatttca aattcatcag atgcattgga caaaatccgg tatgaaagct 180

tgacagatcc	cagtaaatta	gactctggga	aagagctgta	tattaacctt	ataccgaaca	240
aacaagatcg	aactctcact	attgtggata	ctggaattgg	aatgaccaag	gctgacttga	300
tcaataacct	tggt					314

<210> 394
 <211> 498
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(498)
 <223> n = A,T,C or G

<400> 394						
accagacctg	tcaacgtcna	tttctcggna	aatttnttgg	tattttttgaa	tctnctgcca	60
gagaatgtaa	aactccttca	gncccagctt	gccactcccg	tccgaatcta	gcatgtcaac	120
cataatttng	aatcttcgtc	cagagaatgt	agaactcctt	cagccccagc	ttgccactcc	180
cgtccgaatc	tagcatgtca	accataatth	tgcatgnctc	gatgctgaag	ccatctgact	240
ggatatcttg	gcgctttgct	agaacccttc	tcaggatggg	ctgcngctca	aaggcanaga	300
tctccgnatc	ctctcctgcc	aactgggcaa	acagnctcct	gaatccatca	tcaatgtcat	360
cctcgctgat	gtcgaactct	tcaagattgg	cctcgatttc	atcatcgaca	gcttggtagt	420
cagctttctt	ttcagaaaag	acccggatgc	agaaatcccc	atccttgntg	ggttcgaagg	480
tggaaggcac	ganaatgt					498

<210> 395
 <211> 629
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(629)
 <223> n = A,T,C or G

<400> 395						
gccgcccgtc	aagctgtcca	catccctggc	ctcagcccgc	cacatcaccc	tgacctgctt	60
acgcccagat	tttcttcaat	cacatctgaa	taaatcactt	gaagaaagct	tatagcttca	120
ttgcaccatg	tgtggcattt	gggcgctggt	tgccagtgat	gattgccttt	ctgctcagtg	180
tctgagtgtc	atgaagattg	cacacagagg	tccagatgca	ttccgttttg	agaatgtcaa	240
tgataacacc	aactgctgct	ttggatttca	ccgggttgccg	gtagttgacc	cgctgtttgg	300
aatgcagcca	attcgagtga	agaaatatcc	gtattttgtg	ctctgtttaca	atgggtgaaat	360
ctacaacccat	aagaagatgc	aacagcattt	tgaatttgaa	taccagacca	aagtggatgg	420
tgagataatc	cttcatcttt	atgaccaang	gaggaattga	gcccaaccatt	tgnatgggtg	480
gatgggtgtg	gttgcaattn	ggtttactgg	ggaaactggc	cattangaaa	agggntcctg	540
ggtaaaaagaa	tccttatggg	ggccnnaacc	tttgnttnaa	agccntngcc	ccaaaaangg	600
gntttttggg	cggnatgttt	cnaaaaaacn				629

<210> 396
 <211> 614
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(614)
 <223> n = A,T,C or G

<400> 396

ggtacttggg	cttctttcag	ctgcttcaac	agagtggcag	caaccaagct	ggagtccaag	60
ccccctgata	aaaggcagcc	aatccttctg	tctgtcatca	aacgtttctt	tacagcatta	120
ttaaaaagga	tcctgaggtt	gttcttcaca	gtttctatct	caaaacctgg	aaagagtttc	180
tccacattgt	catagagggc	gtgcaggggt	tcatcccgac	agtgatgata	tttaaccatt	240
tccacggatg	caactttgcc	at ttggtttt	aaatccaaaa	cttcatagt	tccaggaaga	300
aaaggctcca	cttttaaaaa	gggagtcgcg	gagtgttcca	atgtaacaag	acctttaact	360
tctgaacata	cagccaaaaa	tcattctttt	gncattgctt	taaaccaang	tctgactcca	420
tatggtatct	cttaccagg	aaccntttt	ttaatgggca	gggtantccag	ttaaaaccaa	480
atggcaaacc	ccanccantc	caaccnttcc	naaatggntt	gggttnaaat	nccttccttt	540
gggcataaaa	gaattnaang	ggnttnnttt	tancctttcc	ccttttgggc	ccggggattt	600
cnaaaattcn	aaaa					614

<210> 397
 <211> 588
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(588)
 <223> n = A,T,C or G

<400> 397

acctgggcat	aggaaggaac	caggacaggg	ctggggacag	aaggtgggtca	cagtcatgggt	60
ttactctca	gaaatatcct	gggcctatgg	cttaaggctt	cgtggagcag	ggagtggacc	120
ttgtgggtat	ttacaaggct	gggccatata	aaagcattgc	aaacatggag	tggagaggat	180
ccttggagat	gagctgggtc	aatcactcct	ctgaccaaca	aggaaacaaa	ggcccagaga	240
ggagaaggca	gtgcctggcc	agacgtggga	cctgaacca	gccagggtc	tgactcccag	300
tccccagtc	ccctctctac	ctccttgctt	ggctgagctt	ttttttgata	aaggccccag	360
acagcctctc	cgacagtctc	aggtcaggct	gggggtataa	atggagcagt	ggactcagag	420
tcagaggccc	agactctgnt	cttgggcctt	nacattacca	agncttgcta	ataaccacga	480
ggccctgggtg	tggaggggct	gctctctttt	aagctcagct	cntatctgga	acaggccaca	540
aagttncatg	ggataanngn	tgaggccnna	gcccacagng	tggaggnc		588

<210> 398
 <211> 348
 <212> DNA
 <213> Homo sapiens

<400> 398

ggtactagcc	ggacttggat	tttctggaaa	gatttcagtt	gaggaacggg	aacaaagatt	60
atgatagctt	tccgaccacc	accaacttca	atttccttag	ctgccgtaat	attcagctcc	120
ctgagctgag	ccttgaggct	cgagttcatc	tccagctcca	gaagagcttg	ggagatgccg	180
gactcgaact	cgtccggctt	ctcgccattg	ggcttcacga	tcttggcgct	cgaactgaac	240
atggcctttt	cctgggagaa	cttgccgagc	gccggcttag	gaagagaccc	aaatctcgcg	300
agagcacgtc	aaaatccggc	gtccgaaggc	aagaggcgga	aacagcgc		348

<210> 399
 <211> 630
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(630)
 <223> n = A,T,C or G

<400> 399
 acatccaagt ttaaaattat cagcgaaatg gtccatgttt ttccaattac ctgctgacac 60
 gggttctaagc taagtgaagg ggaagatctg agagcgtgct gtttgtggct gttgatgcat 120
 attcgtgatg taacaggtcc tggggcctca ctttacccca tttgtaaaat ggggctaata 180
 tcacctgcct cttacctacc tcagagggat ttggtgaagc aaactgttaa tcttcgaaaa 240
 cgaccatttc acttccttga tatcaagtgc taaccagta tgttcctctt ttttatgtaa 300
 gggacagctt tctccacaga gtcccttctg ctggtgagga cagcatttct gagcagggtc 360
 ttgttctcta tgtgcattag gacttttctc atgcccttgg tctatgtgta gttacttgac 420
 agcatcaaat gccggctctt cctaattgnc ttcaaggttt catgaactaa caacccacc 480
 tttcancatg ggtctggccc ctgaatttgc tgnngacttc agaccacact ggttctacca 540
 cctgaacagg ccnttaaaagt tcccaanggt cancttcctt aattccttgg ttcccgggtg 600
 atggggaact tggcctanaa aagggcncnc

<210> 400
 <211> 619
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(619)
 <223> n = A,T,C or G

<400> 400
 actgaacagg taagtcaccc ctcagccaga gattagtcta cttcttccat gcgtgatgtg 60
 tcgtcatctc cttcaagggg tggcatttct tcagttacag cagcactggg atcatcagca 120
 gtagggatcat cttcatcaat acccagacca agtttgatca tcctgtagat cctgttagca 180
 tgtgtctggg gatcttccag actgaagcca gaagacagga gcgcagtttc ataaagcaag 240
 atgaccagat ccttcacaga cttgtcgttc ttatcagcct ctgccttttg ccttaaggctc 300
 tcaataatgg aatggctcagg gtttatctcc aggtgtttct ttgctgccat gtaaccatt 360
 gntgagttgc tcttagggct tgagctttca tgattcgctc catgnttgct gccagccata 420
 tgtgcttggt acaatacagn atggagatgc accaatcggg tggacaaacc accttctact 480
 ttttcttcca tangctttca gatttgcaaa gttctaaact ttgggttttc ctttctgntc 540
 ttttctttt atctttggaa gtccaggctt nttggggacg ncctaagctt ccctnaatct 600
 ttagtgtgga nnagnctn

<210> 401
 <211> 663
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(663)

<223> n = A,T,C or G

<400> 401

cgaggtactt	gggcttcttt	cagctgcttc	aacagagtgg	cagcaaccaa	gctggagtc	60
aagccccctg	ataaaaggca	gccaatcctt	ctgtctgtca	tcaaacgttt	ctttacagca	120
ttattaaaaa	ggatcctgag	gttggtcttc	acagtttcta	tctcaaaacc	tggaaagagt	180
ttctccacat	tgtcatagag	ggcgtgcagg	ggttcatccc	gacagtgatg	atatttaacc	240
atttccacgg	atgcaacttt	gccatttgge	tttaaatacca	aaacttcata	gtgtccagga	300
agaaaaggct	ccacttttaa	aaagggagtc	gcggagtgtc	tcaatgtaac	aagaccttta	360
gcttctgaac	atacagccaa	aaatccatct	tctgcattgc	tttaaacaaa	ggctgacttc	420
catatgtatc	tctaccagg	aacactttct	taatggcagt	attcagtaaa	accaatgcca	480
acccaccatt	ccacatacca	aatgggttgc	tcaaatacctc	cttggcataa	agatgaaagg	540
ttatttnacc	atncactttg	gccgggattc	aaattccaaa	agccggtgca	ttttntaan	600
ggtgganaat	tnncccttgn	accnaancc	caaataccggg	attttnttnc	ctcnaatngn	660
tgg						663

<210> 402

<211> 673

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(673)

<223> n = A,T,C or G

<400> 402

ggtacgtgtc	cagctctgaa	gggcaaagt	cagaagatcc	taatctggaa	gtgggggtcag	60
ccaccatctc	ccacaccagt	gcctcggcct	ccagatgctg	atcccaacac	gccctcccca	120
aagcccttgg	aggggcggcc	agagcggcag	ttctttgtga	aatggcaagg	catgtcttac	180
tggcactgtc	cctgggtttc	tgaactgcag	ctggagctgc	actgtcaggt	gatgttccga	240
aactatcagc	ggaagaatga	tatggatgag	ccaccttctg	gggactttgg	tgggtgatgaa	300
gagaaaagcc	gaaagcgaaa	gaacaaggac	cctaaatttg	cagagatgga	ggaacgcttc	360
tatcgctatg	ggataaaacc	cgagtggatg	atgatcaccg	aatcctnaac	cacagtgtgg	420
accagaaggg	ccacgttcca	ctacttggat	ccaagtggcn	ggacttacc	ttacgaatca	480
nggcnttttt	ggaanaatga	aggttttnga	aaatccagga	ataccnacct	ggtcaagcng	540
ancttttttg	naatcccng	ggagttnatt	gaaggggtaa	aggaaggcnn	naccagcca	600
agaaagcttt	aagaaagggg	naactttcgg	aaattggaaa	aggccttcan	aacnccaacg	660
gttgttccac	ngg					673

<210> 403

<211> 616

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(616)

<223> n = A,T,C or G

<400> 403

ggtaccgatt	atatcatctc	agtcttgaat	ttactcacgc	tgattgttga	acagataaat	60
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acgaaactgc	catcatcatt	tgtagaaaaa	ctgtttatac	catcatctaa	actactattc	120
ttgcgttatc	ataaagaaaa	agagggtggt	gctgtagccc	atgctgttta	tcaagcaatg	180
ctcagcttga	agaatattcc	tgttttggag	actgcctata	agttaatatt	gggagaaatg	240
acttggtgcc	taaacaacct	cctgcacagt	ctgcaacttc	ctgaggcctg	ttctgaaata	300
aaacatgagg	cttttaagaa	tcatgtgttc	aatgtagaca	atgcaaaatt	tgtagttaaa	360
tttgacctca	gtgccctgac	tacaattgga	aatgccaaaa	actcgagtct	ttaattgtaa	420
tggctttggt	ttatccacag	ttagggcctt	tctcaatata	tatttatgna	tttactggg	480
catggcaaca	tggctggaaa	aatcactgga	tgtaaccaaa	caggcctttt	ttaanaaatg	540
ncncggnnta	accaaanaaa	aaaaaaaaaa	anaaagnttt	gaccttcccc	ggngggcctt	600
taaaaggtna	attccn					616

<210> 404
 <211> 613
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(613)
 <223> n = A,T,C or G

<400> 404		
cagtgtctggg	cctaaaggag ataacattta tgaatggaga tcaactatac ttggtccacc 60	
gggttctgta	tatgaagggt gtgtgttttt tctggatata acattttcat cagattatcc 120	
atttaagcca	ccaaagggtta ctttccgcac cagaatctat cactgcaaca tcaacagtca 180	
gggagtcac	tgtctggaca tccttaaaga caactggagt cccgctttga ctatttcaaa 240	
ggttttgctg	tctatttggt cccttttgac agactgcaac cctgcggatc ctctggttg 300	
aagcatagcc	actcagtatt tgaccaacag agcagaacac gacaggatag ccagacagt 360	
gaccaagaga	tacgcaacat aattcacata atttgtatgc agtgtgaang agcagaaggc 420	
atcttctcac	tgggtgcaa atcnttatag cctttacaat cgggactttg gggaaatggt 480	
atacctggat	ctactctgnn tttanacctt tgggacntng gaaanntccc caaaaanggga 540	
aaggctttca	aangtaaact ttgaacctga aaataagttt gtnnaaacnc ctattgcaag 600	
tttgttttn	gga	613

<210> 405
 <211> 605
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(605)
 <223> n = A,T,C or G

<400> 405	
ggtactgagg	tgtaaaggga tttatatggg gacgtaggcc gatttccggg tgttgtaggt 60
ttctcttttt	caggcttata ctcataaatc ttgtctgaag cttttgaggg cagactgcca 120
agtccctggag	aaatagtaga tggcaagttt gtgggttttt tttttttaca cgaatttgag 180
gaaaaccaa	tgaatttgat agccaaattg agacaatttc agcaaactg taagcagttt 240
gtatgtttag	ttggggtaat gaagtatttc agttttgtga atagatgacc tgtttttact 300
tcctcaccct	gaattcgttt tgtaaatgta gagtttggat gtgtaactga ggcggggggg 360
agttttcagt	attttttttt gtgggggtgg gggcaaaata tgttttcagt tctttttccc 420
ttaagggtctg	ctagaatcct aaaggcaaat gactcaaggt gtaaccagaa aaccagaaaa 480

tcccattttc	nggatatnng	acccccccag	ggtanccggtt	attnaacttt	naccnnttta	540
ccttttaggct	ttgggaaaaa	atttnccttg	gaaaaagggt	tgggannacc	ttttttnccc	600
ccccc						605

<210> 406
 <211> 255
 <212> DNA
 <213> Homo sapiens

<400> 406						
ggtactacct	gcggcctgtc	tcccagcagg	agtttgacaa	gaacaccttg	gatctcagggc	60
aacagaacgg	aactgcctca	tcacggaaga	ccctctggaa	tcaagaactc	tacatccagc	120
aggacaactc	agagaggaag	cggaaacacc	ttccagaccg	acaggatggg	cctgcagcca	180
agagtgaag	agcagcccc	agaagtcagc	actggttgca	cagggacctg	cgtgtgcggt	240
ttgtggacaa	catgt					255

<210> 407
 <211> 601
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(601)
 <223> n = A,T,C or G

<400> 407						
ggtttttttt	ttaagaggaa	aacccggtaa	tgatgtcggg	gttgagggat	aggaggagaa	60
tgggggatag	gtgtatgaac	atgaggggtg	tttctcgtgt	gaatgagggg	tttatgttgt	120
taatgtgggtg	ggtgagttag	cccnattgtg	ttgtggtaaa	tatgtagagg	gagtataggg	180
ctgtgactag	tatgttgagt	cctgtaagta	ngagagtgat	atttgatcag	gagaacgtgg	240
ttactagcac	agagagttct	nccagtaggt	taatagtggg	gggtaaggcg	aggttagcga	300
ggcttgctag	aagtcntcat	aaagctatta	gtggnaagta	gagtttgaag	ccttgaaaag	360
aggatatgat	nccactntga	gtgcgttcgg	tgtttgagtt	ngctaggcag	aatattantn	420
atgatgtaag	cccgtggcca	ttatgagant	gactgccttg	ttaagnntna	nggggtttgg	480
atgangaatg	gctngtaact	actaaggcct	atgntggctg	gttnaanagn	ttcnatntnc	540
nnantttann	tcttgcttgt	ctatgcagaa	tnganctgnt	attnatatgc	ctcacnangg	600
g						601

<210> 408
 <211> 630
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(630)
 <223> n = A,T,C or G

<400> 408						
ggtacaaaag	gagtctcagg	cttgaagagg	ttatgtaact	tgcctaaggt	cacacagtta	60
agtggcagaa	atgagataca	aaccaaagtc	tgtctaactc	cagagttcac	accatcatgt	120
tatagtgcc	tcttcgtaca	ttgagctcca	tagagacagc	gccggggcaa	gtgagagccg	180

gacgggcact	gggcgactct	gtgcctcgct	gaggaaaaat	aactaaacat	gggcaaagga	240
gacctaaga	agccgagagg	caaaaatgtc	atcatatgca	ttttttgtgc	aaacttgctc	300
ggaggagcat	aagaagaagc	acccagatgc	tttagtcaac	ttctnagagt	ttctaagaaa	360
gtgtcant	gaggtggaaa	gaccatgttt	gcttaaagag	anaggaaaat	ttnaagatat	420
tggcaaagcg	gacaaaggnc	cgttttgaaa	gangaaatga	naacctatat	cccttccaaa	480
gggggagacc	caaanagaag	tttcaaggat	nccaatggca	ccccagaag	gcntncttng	540
gccttcttnc	tcttctgctc	ntgagtattc	ggcccaaat	tcaaagggag	aacatcttng	600
gcctggccat	tggatgatt	ggcaaaaaag				630

<210> 409
 <211> 614
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (614)
 <223> n = A,T,C or G

<400> 409						
cgaggtagcg	gtagtcagca	gtgatggctt	ttggttgat	cttggaaagga	ccagagccca	60
gtcagctcaa	accactagtt	atacaggcta	tgccaccct	aatagaatta	atgaaagacc	120
ccagtgtagt	tgttcgagat	acagctgcat	ggactgtagg	cagaatttgt	gagctgcttc	180
ctgaagctgc	catcaatgat	gtctacttgg	ctccctgct	acagtgtctg	attgaggggtc	240
tcagtgtgta	acccagagt	gcttcaaatg	tgtgctgggc	tttctccagt	ctggctgaag	300
ctgcttatga	agctgcagac	gttgctgatg	atcaggaaga	accagctact	tactgcttat	360
cttcttcatt	tgaactcata	agttcagaag	ctcctagaga	ctacagacag	acctgatgga	420
caccagaaca	acctgaggag	ttctgcatat	gaatctctga	tggaaattgt	gaaaaacagt	480
gnccaaggat	tggtaatcct	gctgnnccag	aaaaacgact	tttggncatc	atgggaacga	540
ctggcacang	gtcttcaana	tggagtcnca	tatccgagcc	cattccattg	gaatnccgtt	600
caangacttn	ntct					614

<210> 410
 <211> 611
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (611)
 <223> n = A,T,C or G

<400> 410						
cgaggtagcc	atgttatgct	ttcacctctc	accccaatgg	agtcacacag	gcctgagttt	60
gaacagttaa	cacagcttgg	aagggacaca	tgcttgattc	ccatccttgg	agaacaatat	120
catgctatga	ggagtaggaa	gggcaagaga	tatgaaaaga	acagaggaaa	tgtggttcc	180
agaagtcaga	aggcatcaag	ggtccatcag	tgtagaagt	gctggggcgg	gagacgtaaa	240
ctcatccac	ggtgttctgg	ccagccaaca	gtgggtcacc	attcggcatg	atctcttcaa	300
tctttacaca	gtttctgaag	atttccattg	gctcagtgtt	caaagtgtct	agatcacagg	360
gcaaactctg	ctctggcact	ggctgtgata	caggtccttg	gtctggctct	ggcactgntt	420
gtgataccca	tgcatagtgt	gggctctatc	acangctcca	gagtggactt	cagcacagac	480
tctagctttt	ggccccagaa	tccagccttg	nctttaacca	gtggctntta	atncaggctg	540
acctctgggt	ntggcaccag	ncctagtcca	gcttntaang	ctccantttt	gctntggttt	600

aagctccacn g

611

<210> 411
 <211> 590
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(590)
 <223> n = A,T,C or G

<400> 411
 ggtacccttg tcttttaaag gattccccct tataaggact cttcaagtaa atccacacat 60
 atatagtcaa ctaatttttg acaaagacac caagaatata caatggggaa aggatagtgt 120
 cttcaataaa cagtattgga aatactggat atccacatgc aaaagaatga aattggatga 180
 aatatggtga aattatttta caccgtaccg gctccccaac gtgcacggca ggagctacgg 240
 cccagcgccg ggcgctggcc acgtgcagaa atggagtttc atcatgttgt cctctcgaac 300
 tcttgacctc aagtgatcca cccgcctcgc ccttccaaag tgctgagatt acaggaagag 360
 tctaacctgt ctctgcaagc tcttgagtcc cgccaagatg atatttttaa acgtctgtat 420
 gagttgaaag ctgcagttga tggcctctcc aagatgattc aaaccagat gcagacttgg 480
 atgtaaccaa cataatccaa gcggatgagc ccacgacttt aaccaccaat gcgctggact 540
 ttgaattcag tgcttgggaa ggatacgggc gctnaaagac atcggaacan 590

<210> 412
 <211> 609
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(609)
 <223> n = A,T,C or G

<400> 412
 ggtacagaag atgctgtgga ctattcagac atcaatgagg tggcagaaga tgaaagccga 60
 agataccagc agacgatggg gagcttgacg cccctttgcc actcagatta tgatgaagat 120
 gactatgatg ctgattgtga agacattgat tgcaagttga tgcctcctcc acctccaccc 180
 ccgggaccaa tgaagaagga taaggaccag gattctatta ctggtgtgtc tgaaaatgga 240
 gaaggcatca tcttgccctc catcattgcc ccttcctctt tggcctcaga gaaagtggac 300
 ttcagtagtt cctctgactc agaactctgag atgggacctc aggaagcaac acaggcagaa 360
 tctgaagatg gaaagctgac ccttccattg gctgggatta tgcagcatga tgccaccaag 420
 ctggttgccaa gtgtcacaga acttttttnc gaatttttca cctggaaagg tgttaccgtt 480
 tttctacgtc tttttggacc agggaagaat gtnccatctg gtttggcgga ntgctcgaan 540
 aaagaggaag aagaagcncc gggagctgat ccaggaagaa cnatcccgg aagtggagt 600
 gctcantna 609

<210> 413
 <211> 420
 <212> DNA
 <213> Homo sapiens

<400> 413

ggtaccgcca	catcgctgac	ttggctggca	actctgaagt	catcctgcca	gtcccggcgt	60
tcaatgtcat	caatggcggt	tctcatgctg	gcaacaagct	ggccatgcag	gagttcatga	120
tcctcccagt	cgggtgcagca	aacttcaggg	aagccatgcg	cattggagca	gaggtttacc	180
acaacctgaa	gaatgtcatc	aaggagaaat	atgggaaaga	tgccaccaat	gtgggggatg	240
aaggcggggt	tgctcccaac	atcctggaga	ataaagaagg	cctggagctg	ctgaagactg	300
ctattgggaa	agctggctac	actgataagg	tggtcatcgg	catggacgta	gcggcctccg	360
agttcttcag	gtctgggaag	tatgacctgg	acttcaagtc	tcccgatgac	cccagcaggt	420

<210> 414

<211> 621

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(621)

<223> n = A,T,C or G

<400> 414

acatagtttt	atagtagcca	cagtaacttc	cagtgactgg	caaatttctt	tgcacagct	60
ggcatgtgtg	gtgaatggaa	ttcccatgaa	cagctcttac	atccttcgcg	tttccttcta	120
caggcctcgg	tcttgtttcc	aaaggtgact	gcagtgagga	tgtaagggtcc	atgacctcta	180
gggataatgc	catccactca	ggaagaaaga	tgctgagaaa	ctctagggat	atctaagttt	240
acatcacagg	gggagaatca	attgtggagg	ttttaagaag	acatttgaat	ttttgcccct	300
aatcaagaag	tgttttgcca	tctggtttac	attcaataac	tagttggctc	atcatttgca	360
gaaataaact	ttcctctaga	ttaggaaact	tcacatgag	atctgagata	tactggtttg	420
gaaaggttnc	tcagttctct	tggctttcna	agtccccggc	cttggaatgg	ggtnaaggcc	480
cattggangc	ncattnaatt	ggccttgggg	taaaggaaaac	tttggantgg	cgnccaaatt	540
nnaacccggg	tgggccattn	nttttnacnc	ggtaaattaa	ggntgggccc	cggaaaattt	600
ggttttccgg	aananntttn	g				621

<210> 415

<211> 619

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(619)

<223> n = A,T,C or G

<400> 415

acaagctttt	ttttttnttt	tttttttttt	tttttttaaa	gatcaacaaa	cattttatta	60
attctgattc	cttttatcat	gtgctttttt	atacaaagca	ctttnaaatn	cattacatta	120
tcttaaataat	ataataggag	tttctttcgg	attcagttta	aaaatgacaa	atagcattcg	180
ttgcgcccac	gttagaatta	caccaaattt	accatgngct	ggcacatacc	atcatcccac	240
tggtggctgg	aaaactgggt	tgccaggagt	tctgcactga	gatggggccac	caccccagtg	300
gccatatagg	tatagatgag	ggaaggatgg	actanaanca	agctgggctt	tcngggctcg	360
ctatantcct	ttttcacttc	attccgtttt	ccccattgng	cnttgaacct	agggaatctn	420
nttgacccat	ccttgagact	nttaaaaagg	acctgngttn	aagggtgccnc	cntttgaaaa	480
ggggccccct	ttgnatnaan	tgggccgttg	aaaaaggccc	tttngatttg	gancccaang	540
acngggaaat	ttcacttngg	cattaacnan	tgtcnccgaa	atnttcnctn	ngntatgaac	600
tttantaana	tngnttngn					619

<210> 416
 <211> 611
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(611)
 <223> n = A,T,C or G

<400> 416

ggtacactaa	ggtatgagct	gaagctttag	gttctccgtg	cttccctcaa	gacctccttc	60
ttgctaacag	aagcagtagg	caattgctgc	agtgcgttcc	tcaccctgcc	aataggtctg	120
tctgtatctc	tgtaaaggaa	aatagcctgg	tccctcctgg	cagtgccttg	aagcttgatg	180
ctaattttta	tatagcgtgg	caagctgacc	agcagtgcca	ggccttgatc	tgtattctgc	240
actatccctt	tacttggttc	ctggcactga	atggctctcca	gccctgaaga	atcacgtgtg	300
atcacagcag	ctgacctggg	ctttctcccc	gagaggaagg	ggcatgtcat	ttttatttga	360
cagagggaaa	atgggaaactg	ccttgactgc	ctttgntgng	ctttcccgcg	taagaaagca	420
ctgngtttaa	actgtgcaat	acactngctt	tgccatngat	gtaaatgtaa	gaaaatccct	480
anccttaaaa	cctantgggt	tgaacnttat	tatatnaaan	actttttaac	ctattnngna	540
atttngggnc	cttgccggta	agntttnggg	ggggnaaacn	ngttncaaaa	ggaaaggtcc	600
tttaactttt	g					611

<210> 417
 <211> 609
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(609)
 <223> n = A,T,C or G

<400> 417

cagggtactga	gacatcacat	tactggccag	tgttggcaaa	gaaactgcc	caaacaccat	60
gagaaggcag	gcaattttat	actcttcttc	tggaactaat	ttttccgatt	tttgtgaaga	120
aagagctacg	accaatgcag	gatcaatctc	acaaggtaat	ccggcagctg	atgataactc	180
atacacattc	attgcaacct	tcatatcagt	ttcccttgga	atgtgatcct	taaaatcttc	240
aattgaactt	acaagaaaag	gaatgtggta	ggataacaca	tctctaagtg	cttcttgtgc	300
caatgatcgg	aaggataaaa	ttacaccaat	tattgtcatc	ctcttcaaga	cactgtcaac	360
agatgataat	cttttaaaaca	gtgcagccat	ctgggtctggt	ttgtcaaagc	tggtcctcat	420
ttgtgttaac	acatcaacat	tctccaccac	aagtttctta	agttcaagca	accttgatg	480
gaaatatgcc	acataaggct	ttcacttaga	aacntcatat	catatgggcc	taataagtct	540
ggataatgac	ctcattctga	natggtcaga	atattcntnt	gcattggaan	gtaaatcaat	600
ttctggagg						609

<210> 418
 <211> 643
 <212> DNA
 <213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(643)
 <223> n = A,T,C or G

<400> 418

ggtactcccc	attgaagccc	ccattcgtat	aataattaca	tcacaagacg	tcttgacttc	60
atgagctgtc	cccacattag	gcttaaaaac	agatgcaatt	cccggacgtc	taaaccaaaac	120
cactttcacc	gctacacgac	cgggggtata	ctacgggtcaa	tgctctgaaa	tctgngggagc	180
aaaccacagt	ttcatgcccc	togtcctaga	attaattccc	ctaaaaatct	ttgaaatagg	240
gcccgtat	accctatagc	accnctcta	ccccctctag	agcccactgt	aaagctaact	300
taggcattaa	ccttttaagt	taaagattaa	gagaaccaac	acctctttac	agngaaatgc	360
cncaactata	tactaccctg	atggcccacc	atanttacct	ccnatactnc	ctacactatt	420
tncttatnaa	cncancttna	naatattaat	ctcataatta	ccagctanct	ttncttaacc	480
aatgnccnat	tanaaattaa	anntattatn	taccatactc	cntgtntnctn	nnataatgta	540
nngnananat	tgggnntcggc	ttcaatttat	nnggtcccaa	aaatgcctan	gcttaactcn	600
gnactngtnc	gggcggcncg	ttngnaaagg	ggctgaaatt	cng		643

<210> 419

<211> 607

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(607)

<223> n = A,T,C or G

<400> 419

accagaatat	ggacacattc	caagctttct	tgctgatgct	tgcacatctt	tagaagacca	60
tattcatacc	gaagggcttt	ttcggaaaac	aggatctgtg	attcgccctaa	aagcactaaa	120
gaataaagtg	gatcatgggtg	aagggtgcct	atcttctgca	cctccttggtg	atattgcggg	180
acttcttaag	cagtttttta	gggaactgcc	agagcccat	ctcccagctg	atttgcatga	240
agcacttttg	aaagctcaac	agttaggcac	agaggaaaag	aataaagcta	cactgttgct	300
ctcctgtctt	ctggctgacc	acacagttca	tgtattaaga	tcttctttaa	ctttctcagg	360
aatgtttctc	ttagatccag	tgagaataag	atggacagca	gcaatcttgc	agtaatat	420
gcaccgaatc	ttcttttagaa	caagtgaagg	ccntgaaaag	atgcttntac	ccccggaaaa	480
gaagcttcca	atacnggntt	gaanaagnac	cttgggcggg	aacacnctta	ngngggaaat	540
tcngnccact	tggnggccgt	actaangggg	nccaacttng	gnccaacttt	gggggaaacan	600
ggcanaa						607

<210> 420

<211> 494

<212> DNA

<213> Homo sapiens

<400> 420

ggtacatgag	aacatatatt	tattgcatga	ttttctagat	acacagtcta	tgcattattc	60
atatacat	attttagcct	aaagtgggtt	tcaaateccag	ttcttcaagc	cataaatgac	120
caagatccaa	gcaatctgaa	tttgtttttg	tgattatttg	actggaatgc	ttcttaagtg	180
gaataactat	actccgttat	ccacccgatt	tcctaattgta	attgaaagat	tttctat	240
gccacacact	tggagacaat	aagggttttt	agttttatct	actcttctat	tgaagttaaa	300
gaaagaaaaa	aagatttttt	tatttgatt	aatgaaaagc	tttagtttaa	aataaggaga	360
tccagaataa	aaagaagaga	ctgatctctt	caattattgt	catctgtagc	caccagcaca	420

tcactcttat gtaatcccca aaggcttggc atgccgtaag tgtgtggtgg ggtagactgc 480
tgccggggaa tcgt 494

<210> 421
<211> 366
<212> DNA
<213> Homo sapiens

<400> 421
ggtaccaagg ttattgatca agtcagcctt ggtcattcca attccagtat ccacaatagt 60
gagagttcga tcttgtttgt tcggtataag gttaatatgc agctctttcc cagagtctaa 120
tttactggga tctgtcaagc ttccataacc gattttgtcc aatgcactctg atgaatttga 180
aatgagctct ctcagaaaga tctctttgtt cgagtagaaa gtattgatga tcaatgacat 240
caactgggca atttctgcct gaaaggcgaa cgtctcaacc tcctcctcct ccacggttg 300
gtcttggtgc tgggtttcct caggcatctt ggctaagtga ccgcacagga ccaacggcac 360
agccac 366

<210> 422
<211> 418
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1) ... (418)
<223> n = A,T,C or G

<400> 422
ggtacaagag tgtttcatga aatccgtttt taaaatgaac atctctgtgt gccacagttc 60
ctaggactgg ggcaaggaca cagtgtcaag tcttgttttg aggatgagtc tctgaagaga 120
cagaattcct gccagaatgc gcacagaaca taagtcagcc aagtgtgtcg tgccagggat 180
actttgactt tggtttgctg ctgctgctag ggatattggg agggttatcc ttccagggt 240
gtaggagagg gttgtgggta aaggctctgtc gttaaaggacc cctggctgct agtccaaact 300
gattccgcat gcgttggtca cgctctcnca gctgacgccg tcatttcagc atttttccag 360
ccttttttga aagctctcta ggaagccttt ccgtggaggt aatttgtcca ggtcatgt 418

<210> 423
<211> 374
<212> DNA
<213> Homo sapiens

<400> 423
ggtctattct gcatatagag aactgagggc tttccctgag aaacagttga gttgtgttgc 60
caaccagaat ggctcgcaag ctgactgtga gctcggaat ccttttaaaa gaaattcaaa 120
tgtcactttt tatttggttt taagtacacc tgattttcat gacaaatacg gtaatgctgt 180
attagctagt ggagccactt tctgtattgt tacatggaca tatgtagcaa cacaagtcgg 240
aatagaatgg aacctgtccc ctgttggcag agttacccca aaggaatgga ggaatcaagt 300
aatcatccca actggtgtaa taatgaattg tttaaaaaac agctcataat tgatgcaaaa 360
ttaaagcact gtgt 374

<210> 424
<211> 610
<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(610)

<223> n = A,T,C or G

<400> 424

ggcggagctt	gaggaaacgg	cagataagtt	tttttctctt	tgaaagatag	agattaatac	60
aactacttaa	aaaatatagt	caatagggtta	ctaagatatt	gcttagcggt	aagtttttaa	120
cgtaatttta	atagcttaag	attttaagag	aaaatatgaa	gacttagaag	agtagcatga	180
ggaaggaaaa	gataaaaggt	ttctaaaaca	tgacggaggt	tgagatgaag	cttcttcatg	240
gagtaaaaaa	tgtattttaa	agaaaattga	gagaaaggac	tacagagccc	cgaattaata	300
ccaatagaag	ggcaatgctt	ttagattaaa	atgaagggtga	cttaaacagc	ttaaagttta	360
gtttaaaaag	tgtagggtgat	taaaataatt	tgaaggcgat	cttttaaaaa	gagattaaac	420
ccgaagggtg	attaaaagac	cttgaaatcc	atgaccgcag	ggagaattgc	gtcattttaa	480
gcctagttaa	gcattttcct	aaaccccaga	ccaaaaaatgg	ggaaggatta	attgggagtg	540
gtaggatgaa	ccaanttggg	ngaagatgaa	gttggaagtg	gaaactggaa	aaccgaaagt	600
ncctcggccc						610

<210> 425

<211> 368

<212> DNA

<213> Homo sapiens

<400> 425

ggtataagtt	cagagagaaa	gattccttcc	caagggtcatg	cagctagtaa	atgatagaat	60
caggattcat	agcatcacta	taggggggtca	atattttacac	aaaaaaggaa	agtcacaagc	120
ctgtttaaaa	tgaagtgacc	accttttctt	gcatagacta	aataactcga	actggcattt	180
ttagggttga	aagacagctg	aattagtagt	taagtctgat	agccaagtaa	gttttaaaaa	240
ccaaagcatc	caggatgcac	acccttgcac	catttgctgt	gcgaattaat	agttctgtct	300
ctctctctct	ttcttttttc	tttttattct	ttgagatgga	ttttcgctct	tgctcgccag	360
gctggagt						368

<210> 426

<211> 630

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(630)

<223> n = A,T,C or G

<400> 426

actaccacag	cttttaagtg	acattgattt	ataacttggg	cacaattcac	tgcatttagg	60
aaaaccagca	ttcttatctg	gtcagtgctc	gcttcttagc	aaccctaat	taaatttaat	120
tcctctctaa	atcttagctt	caactttatt	caattacatt	tggtgacgg	ctgttttcta	180
aaacccttaa	gtgttgacca	taaatgcaaa	acttccagta	tctgttgggt	tttattagca	240
gatgctgctt	ttatttataa	aaaaccgaca	gtataactgt	cataattatg	gaaggcactg	300
cttccgataa	ttatattcta	ttaaaaaaac	accatttata	gtgaactctg	tcactgataa	360
ataaacaata	aatatctcag	tgccaaaagg	acagaaagct	ctcccctaag	attaacactt	420
tggccaaaat	ttggtagcat	attattcttt	aaagtctgac	aaactgagtc	tgcaactaaa	480

cacctgaaac	tggtctcttt	caatgggctt	tggaagaacc	aaaataccaa	gaactaaatg	540
gaggcttatg	ggggaagggn	cgaggaaata	aatatctaag	cnttggtctt	tggccctctt	600
tcataaannc	ctgaggtaca	tattangctn				630

<210> 427

<211> 224

<212> DNA

<213> Homo sapiens

<400> 427

ggtgggaggg	tggtgtccac	tgcccagttc	cgtgtcccga	tgcccagcgc	cagcgccagc	60
cgcaagagtc	aggagaagcc	gcgggagatc	atggacgcgg	cggaagatta	tgctaaagag	120
agatatggaa	tatcttcaat	gatacaatca	caagaaaaac	cagatcgagt	tttggttcgg	180
gtagagagct	tgacaataca	aaaagctgat	gaagttgttt	gggt		224

<210> 428

<211> 543

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(543)

<223> n = A,T,C or G

<400> 428

ggacgtcttc	agctctcggc	gcacggccca	gcttccttca	aaatgtctac	tgttcacgaa	60
atcctgtgca	agctcagctt	ggaggggtgat	cactctacac	ccccaaagtgc	atatgggtct	120
gtcaaagcct	atactaactt	tgatgctgag	cgggatgctt	tgaacattga	aacagccatc	180
aagaccaaag	gtgtggatga	ggtcaccatt	gtcaacattt	tgaccaaccg	cagcaatgca	240
cagagacagg	atattgcctt	cgccctaccag	agaaggacca	aaaaggaact	tgcatcagca	300
ctgaagtcag	ccttatctgg	ccacctggag	acggtgattt	tgggcctatt	gaagacacct	360
gctcaagtat	gacgcttctg	agctaaaagc	ttccatgaag	gggctgggga	accgacgagg	420
actctctcat	tgagancatc	tgnttcagaa	cccaaccag	gaagctgcan	ggaaantaac	480
cagagtctac	caagggaat	gtaccctnng	gnccngaac	cacgcttaan	gggcgaaatt	540
cca						543

<210> 429

<211> 346

<212> DNA

<213> Homo sapiens

<400> 429

actatctttt	cattcagtc	cttaagcagc	ttactcttca	atgccaaaca	aactttat	60
tttaaatagt	cttaaaagt	cttaagggag	ttctgggtcc	tctttttagc	ctgcacagtt	120
taagatcaat	ggtaaaggta	ggaaataatc	ataagggcac	tggaagaagg	aatgagtcta	180
aataatgtat	aatgactgtt	ccgccatacc	aattttgtca	tggtgattat	tcactaattt	240
tataggagag	tgtattgaga	tctgctacag	cttcttggt	ctttgaagca	ctgctgaatt	300
acatacacia	agcagagcag	atgtcagcac	ctgattaatc	agtacc		346

<210> 430

<211> 605

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(605)

<223> n = A,T,C or G

<400> 430

ggtggcgcg	ccgaggtaca	gctgggtgctt	ctgccttacc	ccatcctctc	ctctcagatt	60
caccgaggac	tggttcaggtg	gtaacattct	cttagggtag	ggaactctgc	agagggagag	120
ctgaggaggt	tccggccata	gttgtttgta	atcttagggc	tctgggcttg	gctgaaacat	180
gacgggtattg	cttggtttca	ggcttgacac	tgccaggcgc	ctattgcttg	acctctgttt	240
aaatgagggga	cttcaagact	agacagcatg	gctcttttca	gtttattgca	tgaaggagtt	300
acactagtcc	aagttaaaag	cggaccccaa	atgggttacat	tatacaagct	gtgaggtttt	360
taaacctgtg	acaagggaga	gaagggaaat	tctactcatt	gcaaggaaat	cctcacttaa	420
gcttcagtga	gccacaagca	cttaaaaccc	atgaaccttc	agctgatcgt	ccttagccag	480
tccaatctct	acgaggaact	ggcatatgtc	ttgcgctggc	acccgtgtagc	tgaattactt	540
ctcatattcn	gatgctaatt	ncagacctgn	ccggcgggcg	tcaaaggcna	atccacnact	600
gnngn						605

<210> 431

<211> 430

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(430)

<223> n = A,T,C or G

<400> 431

acactaccaa	cagatcaaag	aaaccctcc	ggccagtga	aaagacaaaa	ctgctaaggc	60
caaggtccaa	cagactcctg	atggatccca	gcagagtcca	gatggcacac	agcttccgtc	120
tggacacccc	ttgcctgcca	caagccaggg	cactgcaagc	aatgccctt	tctgggcagc	180
acagatgaat	cagagaggca	gcagtgtctt	ctgcaaagcc	agtcttgagc	ttcaggagga	240
tgtgcaggaa	atgaatgccg	tgaggaaaga	ggttgctgaa	acctcagcag	gccccagtgt	300
ggttagtgtg	aaaaccgatg	gaggggatcc	cagtggactg	ctgaagaact	tccaggacat	360
tatgcaaaa	caaagaccaa	aaaanaaann	nnaaaaaaaa	aagcttgtac	ctnggccgng	420
accacgctaa						430

<210> 432

<211> 479

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 432

acaagctttt	tttttttttt	tttttttttt	ttggaacgta	ggcttttctt	tgtctttatt	60
ctggggagga	ggaatcctcc	tcacatcttt	cctcatcttc	atcattgaac	gaacaggggg	120

tctcgccctcg	ggactcggag	cagtgaagagg	ccgcactgct	ggactgggtga	ctgtttgggg	180
ccaggaactg	cccagttgct	aaggccactt	ctgcatccaa	gcataaccct	tggtttacac	240
ttgactgggg	taagggtggca	ccagtgggtca	ggtctaaatt	tgaaactgat	tgggtagaag	300
ttcagaagta	gtccctgatt	taaccaagaa	ggtcctgtgg	agatatctgn	gatataacct	360
tctaaagcct	ttggcaccag	ggatttcgca	agttttcaan	atcctccaga	gagcatttgc	420
ctgacttcag	gcnaaacgac	attcccatnc	gctttangac	cttgggcnng	accacgcta	479

<210> 433
 <211> 600
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(600)
 <223> n = A,T,C or G

<400> 433						
ggtacccaac	aataccaccg	accaggagct	gcaacacatt	cgcaacagcc	tcccagacac	60
agtgcggatt	aggcgggtgg	aggagcgggt	ctcagccttg	ggcaatgtca	ccacctgcaa	120
tgactacgtg	gccttggtcc	acccagactt	ggacagggag	acagaagaaa	ttctggcaga	180
tgtgctcaag	tggaagtct	tcagacagac	agtggccgac	caggtgctag	taggaagcta	240
ctgtgtcttc	agcaatcagg	gagggctggt	gcatcccaag	acttcaattg	aagaccagga	300
tgagctgtcc	tctcttcttc	aagtccccct	tgtggcgggg	actgtgaacc	gaggcagtga	360
ggtgattgct	gctgggatgg	tggtgaatga	ctggtgtgcc	ttctgtggcc	tggacacaac	420
cagcacagag	ctgtcagtgg	tgagagagtg	cttcaagctg	aatgaagccc	agcctagcac	480
cattgccacc	agcatgcggg	attccctcat	tgacagcctc	acctgagtc	ccttccaagt	540
tgttccatgg	gctcctggct	ctggactgtg	gccaaccttc	tncacattcc	gccaatctgt	600

<210> 434
 <211> 417
 <212> DNA
 <213> Homo sapiens

<400> 434						
ggtaccaacg	cgctaagaaa	tcagctccaa	ttcgaagtgc	acctgttccc	cccaaagatt	60
gcacacctcc	tacccgcttc	tccttgagtg	ctgggctgtc	atccccaagg	gcaagacgag	120
aagcacagct	ccggaactca	gccaggccca	ggattggcag	atactcgtga	tttaggctat	180
tgtcattagc	aatcttctgc	tccactttct	tcactactgg	caaaaaccag	ggatggcagt	240
catccgtgcg	atatgctccc	actcccaggt	tgaccttgcg	ggggtcggga	tcctccctga	300
agtcggcagt	gagcttgaag	accaggacag	gctgggcctg	cggaacctcg	gcaaagactg	360
acggaggtgc	catatcgaga	gactaggaat	caagagattt	cacccacgc	ccggagc	417

<210> 435
 <211> 672
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(672)
 <223> n = A,T,C or G

<400> 435
 ggcagagaac gatgtggaca atgagctctt ggactatgaa gatgatgagg tggagacagc 60
 agctgggggga gatggggctg agggcccctgc caagaaggat gtcaagggct cctatgtctc 120
 catccacagc tctggctttc gtgacttctt gctcaagcca gagttgctcc gggccattgt 180
 cgactgtggc tttgagcatc cgtcagaagt ccggcatgag tgcacccctc agggcattct 240
 gggaatggat gtcctgtgcc agggccaagtc gggcatggga aagacagcag tgtttgtctt 300
 ggccacactg caacagctgg agccagttac tgggcagggtg tctgtgctgg tgatgtgtca 360
 cactcgggag ttggcttttc aagatcagna aggaatatga gcgcttcttt taatacatgc 420
 ccaatgtcaa aggttgcctg tttttttggt gggctggcta tcaagaaagg atgaagaagg 480
 tgctgaanaa anaactgccc natattcgtc ctgggggact tcaagcccgt atnctaance 540
 tggcttcgaa ataagancct taancttaaa cncataaaca ctttatttgg atgaatgnngn 600
 taanancttg aacagtngac atncttcgga tgtcnggaaa ttttncnatg accccccana 660
 annngnctgn tt 672

<210> 436

<211> 469

<212> DNA

<213> Homo sapiens

<400> 436
 ggtacaagct tttttttttt tttttttttt ttttttataa aagcatttta ttgaacacat 60
 tctggaggta agttagaacc aaaacaaaat ttgggattgg ggtggggatt ctgttttgat 120
 gatttagatt tgggaaaact ttggattctc gtgtcagcag gggccatgct gtgggaaacc 180
 tgaaggctga tttgaagcag aatatagaac tgcggcacgg gagaccaggg gctgggaatg 240
 gggctctcct gggaaccaa gaatgtggtt ctgcaattgg cttgggtctag actactctcc 300
 agaaaaggat aaaacatggc ttgagcaact gcctagaaga ggcaatctcc atgggctggg 360
 ttgctgcact tggaaggcag tgacttgacg caggttctta gctcttgaag ctcttccggg 420
 aggaggagggt ggtggagaca aatttgacgc tggggctgct acccccgcc 469

<210> 437

<211> 457

<212> DNA

<213> Homo sapiens

<400> 437
 actgaggcat cttcttcagc atctgggaca ggtcccgcag ggtgggtctt ctctccagta 60
 ttcatctctt tgctagaaga aaaatctttc agagaccggg gtgacttctg ggacacctct 120
 gcgatgtgct tgtggcgagc tgctatccac aggtcgctcg cctcgctccag gagcacctcc 180
 ttcacccgtg cctccccgat gccgctggtc tcatacttgt atacatcatt ttcgataggc 240
 agcagatcat aactcatagc ctgaaaagtc aattcatgga gcacagggga gctgggggtca 300
 aagcctcgat ccaggatcag gagctgggag cgtgccttgt ctgggccctc ccccatgtgt 360
 ggatcatcag ctttataggc atcgagcttg tcctggatta gctgagccag cagggcattg 420
 tccttgtatt cccccgata ccgcatagcc ggggtacc 457

<210> 438

<211> 731

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(731)

<223> n = A,T,C or G

<400> 438

accaattatt	cagaatcaaa	tggatgcact	tcttgatttt	aatgttaata	gcaatgaact	60
tacaaatggg	gtaataaatg	ctgccttcat	gctcctgttc	aaagatgcca	ttagactgtt	120
tgcagcatat	aatgaaggaa	ttattaattt	gttggaataa	tattttgata	tgaaaaagaa	180
ccaatgcaaa	gaaggtcttg	acatctataa	gaagttccta	actaggatga	caagaatctc	240
agagttcctc	aaagttgcag	agcaagttgg	aattgacaga	ggtgatatac	cagacctttc	300
acaggccctt	agcagtcttc	ttgatgcttt	ggaacaacat	ttagcttcct	tgggaaggaaa	360
gaaaatcaaa	gattctacag	ctgcaagcag	ggcaactaca	ctttccaatg	cagtgtcttc	420
cctggcaagc	actggtctat	ctctgaccaa	agtggatgaa	agggaaaagc	aggcagcatt	480
agaggaagaa	caggcacgtt	tgaaagcttt	aaaggaacag	cgcctaaaag	aacttgcaaa	540
gaaacctcat	acctctttaa	caactgcagc	ctctcctgta	tccacctcag	caggagggat	600
aatgactgca	ccagccattg	acatattttc	tacccctagt	tcttctaaca	gcacatcaaa	660
gctgnccaat	gatctgcttg	anttgcagca	gccaaacttt	cacccatctg	tacctttggg	720
ccngaaacac	g					731

<210> 439

<211> 470

<212> DNA

<213> Homo sapiens

<400> 439

ctgcgagcca	ggattcccga	tccagagaca	atggccccga	tgggatggag	cccgaaggcg	60
tcacgcagag	taactggaat	gagattgttg	acagctttga	tgacatgaac	ctctcggagt	120
cccttctccg	tggcatctac	gcctatgggt	ttgagaagcc	ctctgccatc	cagcagcgag	180
ccattctacc	ttgtatcaag	ggttatgatg	tgattgctca	agcccaatct	gggactggga	240
aaacggccac	atttgccata	tcgattctgc	agcagattga	attagatcta	aaagccaccc	300
aggccttggt	cctagcacc	actcgagaat	tggctcagca	gatacagaag	gtggtcatgg	360
cactaggaga	ctacatgggc	gctcctgtc	acgcctgtat	cgggggcacc	aacgtgcgtg	420
ctgaggtgca	gaaactgcag	atggaagctc	cccacatcat	cgtgggtacc		470

<210> 440

<211> 353

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(353)

<223> n = A,T,C or G

<400> 440

ggtacattga	agagaacaag	tatagcagag	ccaaatctcc	tcagccacct	gttgaagaag	60
aagatgaaca	cttcgatgac	acagtgggtt	gtcttgatac	ttataattgt	ggatctacat	120
tttaaaatat	caagagatcg	tctcagtgtt	tcttccctta	caatggagaa	gttttgcttt	180
tctttgggct	ggaggaagag	catcctatgg	tgtgtcaaaa	ggcaaagtgt	gttttgagat	240
gaagggtaca	gagaagatcc	cagtnaggca	tttatatcnn	nngatattga	catacatgaa	300
gttcgnattg	gctggncact	actcnnntgg	aatgntcttg	ngnaanaana	att	353

<210> 441

<211> 647

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(647)
 <223> n = A,T,C or G

<400> 441

acattattga	tgaacgcagt	gactctgaag	aataatcaga	ggatgacatg	ggagagccca	60
atggcttcat	tgattgcca	tccctgtgag	gacagggaaa	tgggagcttg	tggtattctg	120
gggatgacag	aggtgagtga	ggtgaagccc	taggggatgg	tgaatggtag	ctccggatcc	180
ctggtgagga	gcttcctctt	aagtctgagt	tactgagagg	gaagagggag	aagctgggtg	240
aggctagcat	cgctgcacct	ggggaatccg	ggctggggga	ctgttcacaa	gaagagccag	300
acaagaccct	actgttctta	ggtgcagaca	ggattatgaa	acctgaagct	cccagggacc	360
ccaacaaatt	ttcaaacctt	gagaatgaag	gagtgtgtgt	gactgtgaga	gtgtgtgtgt	420
gtgtgtgtgg	tgtgaggtat	gcgctcctta	agaaaatgga	aataaaacca	ccaatgagac	480
agacagacag	acagagactc	acttatccaa	gtgttctgtc	cagtcctctg	aatccgggtc	540
caagtcgcaa	gaccctttga	gctccaagtc	catacagagc	ccggcaaaat	gctccggccc	600
gctgctcggc	tcttgtgacg	atctgagtac	ctcgggccgn	gaccacg		647

<210> 442
 <211> 1002
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(1002)
 <223> n = A,T,C or G

<400> 442

acagaagtgtg	aagtgaatc	tactgaggag	gcttttgaag	ttttctggag	aggccagaaa	60
aagagacgta	ttgctaatac	ccatttgaat	cgtgagtcga	gccgttccca	tagcgtgttc	120
aacattaaat	tagttcaggc	tcccttggtg	gcagatggag	acaatgtctt	acaggaaaaa	180
gaacaaatca	ctataagtca	gttgctcctg	gtagatcttg	ctggaagtga	agaactaac	240
cggaccagag	cagaagggaa	cagattacgt	gaagctggta	atattaatca	gtcactaatg	300
acgctaagaa	catgtatgga	tgtcctaaga	gagaaccaaa	tgtatggaac	taacaagatg	360
gttccatata	gagattcaaa	gttaacccat	ctgttcaaga	actactttga	tggggaagga	420
aaagtgcgga	tgatcgtgtg	tgtgaacccc	aaggctgaag	attatgaaga	aaacttgcaa	480
gtcatgagat	ttgcggaagt	gactcaagaa	gttgaagtag	caagacctgt	agacaaggca	540
atatgtggtt	taacgcctgg	gaggagatac	agaaaccagc	ctcgaggtcc	agttggaaat	600
gaaccattgg	ttacctgacg	tgggtttgca	gagttttcac	cnttgncgtc	atgcgaaatt	660
ttggatatca	acgatgagca	gacactttcc	angctgattg	gaagccctta	gagaaacgac	720
ttacttacga	caaattggatg	attggtgagt	ttaacaaacc	atntaaagct	tttaaagctt	780
ttgtaccaga	aattggcaat	gctgggttaa	gtnaaggaaa	anccctgcc	anggggaact	840
taatggaaan	ggggaaaaag	atttngnccc	aaattggaat	tnaaccnccc	gaaaaaaaaa	900
annnnnnaaa	aaagancttg	gncgggaacc	ccccttaggg	gaattcnncn	ccttgggggc	960
cnntnntaan	ggacccantt	ggnccaaaat	ttgggggaaan	tg		1002

<210> 443
 <211> 486
 <212> DNA
 <213> Homo sapiens

<400> 443

acattagtct	taattgactt	attacataat	cgattcgtgt	ctagttttga	gagctttaag	60
ttctcaatta	tagttctttg	aaaactgaat	agcaaataac	aatatgatta	acttcatatt	120
tattatttca	acgatctttt	ttataaccga	gtttaatttt	taaattaaat	ttctaaaata	180
gattaccaat	attaaaatac	cttaagatat	ttatctttag	caataatagg	caatattaaa	240
gttgatttaa	cttttaaatt	aagtaagagt	atttggtgga	tgccttgggt	ctgaaagtcg	300
atgaaggacg	cgattacctg	cgataagctt	cgtggagttg	gaaataaact	atgatacgga	360
gatttccgaa	tggggtaacc	taactgagca	aacctcagtt	gcattttgat	gaatccatag	420
tcaaattagc	gagacacgtt	gcgaattgaa	acatcttagt	agcaacagga	aaagaaaata	480
aatacc						486

<210> 444

<211> 625

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(625)

<223> n = A,T,C or G

<400> 444

gagggatgca	cgttgcctta	gccgagcttc	ggagagaagc	ctgatatgta	acccaggcag	60
gtgggagcct	cagtctgtcg	ggctgaggtc	tggcatctac	aaagcctctt	ggccgtgttc	120
tgaacttgaa	gcctggagga	gttctctgct	cagcacagcc	aaggaacaga	attagaagaa	180
aaggaaccct	ggcctgaggg	aggtgacaaa	cattaccacc	ccagctgtgc	acgatgcagc	240
agatgcaacc	agatgttcac	agaaggagag	gaaatgtatc	ttcaaggctc	caccgtttgg	300
catcccgaact	gtaagcaatc	tacgaagacc	gaggaaaagc	tgcggcctac	caggacatcc	360
tcggaaagta	tttattctag	gccaggctcc	agtattcctg	gctcaccagg	tcatactatc	420
tatgcaaaaag	tagacaatga	gatcctggat	tacaaggatt	tagcagccat	tccgaagggtc	480
aaggcaattt	atgacattga	acgtccagat	cttattacct	atgagccttt	ctacacttcg	540
ggctatgatg	acaaacagga	gagacagagc	cttggagagt	ctccgaggac	tttgnctnct	600
acttcacag	cagaagggtg	cctcg				625

<210> 445

<211> 1002

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(1002)

<223> n = A,T,C or G

<400> 445

accacaactc	ccaggatttt	cctggatcaa	accttgtatc	tcttctgcaa	gtattgtgta	60
tatttggtctg	agagacgtgg	accctcctga	acattttatt	ttaaagaact	atgatatcca	120
gtatttttcc	atgagagata	ttgatcgact	tggtatccag	aaggatcatg	aacgaacatt	180
tgatctgctg	attggcaaga	gacaaagacc	aatccatttg	agttttgata	ttgatgcatt	240
tgacctatac	ctgggtccag	ccacaggaac	tcctgttgct	gggggactaa	cctatcgaga	300
aggcatgtat	attgctgagg	aaatacacaa	tacaggggtg	ctatcagcac	tggatcttgt	360
tgaagtcaat	cctcagttgg	ccacctcaga	ggaagaggcg	aagactacag	ctaacctggc	420
agtagatgtg	attgcttcaa	gctttggtca	gacaagagaa	ggagggcata	ttgnctatga	480

ccaacttctt	actcccagtt	caccagatga	atcagaaaat	caagcacgtg	tgagaattta	540
ggggacactg	tgcactgaca	tgtttcacaa	caggcattcc	agaattatga	ggcattgagg	600
ggatagatga	atactaaatg	gttgggtggg	tcaatactgn	cttaatgaga	acatttacac	660
attctcacia	ttggtaaagg	ttccccctta	ttttgggtgac	caatactact	ggaaatggaa	720
tttggntttt	tgcagttcac	aggggtantaa	tatggctcag	taccttnggc	cgcgaacacg	780
cttaagggcn	aattccacac	acttggggcgg	ccgttcttaa	nggatccgaa	ctnggancca	840
agcnttggcg	taaacatggg	cnataantgg	tttctggggg	gaaatgggtat	ccgggttacia	900
tttcccccca	nattccnaac	ccggaagnen	tnaagggtaa	aaccgcgggg	gccctaangg	960
ggngctaact	ccaaatnaaa	tgggttgngc	ttaatggccc	nt		1002

<210> 446

<211> 367

<212> DNA

<213> Homo sapiens

<400> 446

ggtacaaaag	agtatgggct	cacaagaaga	tgattcagga	aacaaaccat	ccagttattc	60
ttgaaactaa	catccatcct	gagctaaaca	agagaaacta	ccatcttggc	cagtgcacag	120
tggtcggagg	gcagcagaga	ggaccaagcc	tgtgtcacct	ggagactaag	aaattaagtt	180
ttgttttgac	atcttcagtc	ctgtgtgctt	tcagaaaacc	attttctctg	caaagaaagg	240
aaacagatatt	gcaaacttta	aagtctgtcg	tggattttatt	tatcctcaga	ttattgttac	300
tgcattaaat	ctaccttttt	gttttaagtt	gcttgaaaaa	aaaaaaaaaa	aaaaaaaaaa	360
aaaaagc						367

<210> 447

<211> 754

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(754)

<223> n = A,T,C or G

<400> 447

actcttgggg	tggaagagat	ctacacataa	caagttcaga	aaccacagtg	ataaactaac	60
ctaagaaaaat	cgtttaactt	ttatctacct	gaaacacaaa	attaaaaggc	aacctataaa	120
ctggaaaaaaa	atatttgcac	caaataataac	aaaagattat	caatctcctt	aagatgtaaa	180
tggtcttttgc	aaaacaatca	atagaaaaat	gactaggaat	tagaaaatca	tacacacaca	240
cacacacaca	cacacgcaca	cacacacaca	ccacaaatgg	ccaattgaca	catggtagag	300
atgttcagtc	accagcagac	aaagcaatgt	tcacatccac	agggaagca	gactcgatcc	360
gtcggaggag	caaagggttt	caatgtnata	aagcccgggt	ctgagggaan	anggggaaggc	420
atcagggttt	ncctcaccca	gtgaagaaca	cctaattnga	aaaaaatccc	ttcccttgct	480
tggggccagt	tttaaccaat	tatggaaccc	ttgaaagtct	ttaaagaagt	ttnaaccagt	540
caatttncct	ttcttcngaa	atgggtatgg	atttcaggca	tttcccaaag	gagggtttanc	600
canccggacc	gttgaaaaaa	ggtcntggaa	ccttccnagg	gnaaagtcca	tttgccaagg	660
gtnttaattt	ttcttaagga	agggaaaaaa	aaaaancttg	naaaaatncc	ctnngattgn	720
ccccattggn	aancccggnn	atnggtttaa	aatt			754

<210> 448

<211> 551

<212> DNA

<213> Homo sapiens

<400> 448

accagaaccg	agttcgggat	actcacaggc	tcatcactca	gatgcagctg	agcctggcag	60
aaagtgaagc	ttccttggga	aacactaaca	ttcctgcctc	agaccactac	gtggggccaa	120
atggctttta	aagtctggct	caggaggcca	caagattagc	agaaagccac	gttgagtcag	180
ccagtaacat	ggagcaactg	acaagggaaa	ctgaggacta	ttccaaacaa	gccctctcac	240
tgggtgcgcaa	ggccctgcat	gaaggagtcg	gaagcggaa	cggtagccc	gacggtgctg	300
tgggtgcaagg	gcttgtggaa	aaattggaga	aaaccaagtc	cctggcccag	cagttgacaa	360
gggaggccac	tcaagcggaa	attgaagcag	ataggtctta	tcagcacagt	ctccgcctcc	420
tggattcagt	gtctcggctt	caggagtcga	gtgatcagtc	ctttcaggtg	gaagaagcaa	480
agaggatcaa	acaaaaagcg	gattcactct	caagcctggg	aaccaggcat	atggatgagt	540
tcaagcgtac	c					551

<210> 449

<211> 398

<212> DNA

<213> Homo sapiens

<400> 449

accttcaaca	ggcatctcaa	cagccccatc	accaaacacct	gtgtgcaagg	catagccatc	60
acgcggaaaa	gtctcaggac	tcagaactac	accataaatg	caggatcttt	ttatttcata	120
taaaaatgat	caatgtgaaa	aaagccaaac	tgtatgctgg	ttttacagac	tccgaccctt	180
cctgacagtc	gtcttgtctg	gccaggctgg	gggcccagca	ttcctggaag	ggagagacag	240
cccggcatct	cagtatttca	ttgggacaac	aagctggatg	tggcagggaa	agctgagagc	300
gccaagggtcc	ccttgcttta	tcccaagctc	ggaggggacgc	agcctggcat	ggctctggcc	360
tagcagccag	gtgacatggc	caggcacctt	cctgtacc			398

<210> 450

<211> 672

<212> DNA

<213> Homo sapiens

<400> 450

accttattag	aaagcgacgg	caaactatgt	gccagcagcc	gcggtaatac	ataggtcgca	60
agcgttatcc	ggaattattg	ggcgtaaagc	gtccgtaggt	tttttgctaa	gtctggagtt	120
aatgctgaa	gctcaacttc	agtccgcttt	ggatactggc	aaaatagaat	tataaagagg	180
ttagcggaa	tcctagtga	gcggtggaat	gcgtagatat	taggaagaac	accaataggc	240
gaaggcagct	aactggttat	atattgacac	taagggacga	aagcgtgggg	agcaaacagg	300
attagatacc	ctggtagtc	acgccgtaaa	cgatgatcat	tagttggtgg	aataatttca	360
ctaacgcagc	taacgcgtta	aatgatccgc	ctgagtagta	tgctcgcaag	agtgaattt	420
aaaggaattg	acgggaaccc	gcacaagcgg	tggagcatgt	ggtttaattt	gattctacgc	480
gtagaacctt	acccactctt	gacatcttct	gcaaagctat	agagatatag	tggagggttaa	540
cagaatgaca	gatggtgcat	ggttgtccgt	cagctcgtgt	cgtgagatgt	taggttaagt	600
cctgcaacga	gcgcaacctt	tttctttagt	tactaatatt	aagttaagga	ctctagagat	660
actggctgga	cc					672

<210> 451

<211> 554

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(554)

<223> n = A,T,C or G

<400> 451

acacgctgcc	aaagtaattc	ctgctcatcc	atgccctgtc	tctgtctctt	ttagagtcac	60
accttatttg	agtatagggt	gcttaatttt	gctagacttc	ctgaaaacac	taaggaggag	120
tatcagaagt	gatttttagc	acagttctgc	gggagagctt	agaataacac	cctcctttgg	180
gaggtgggtc	tgggtgcgtg	gatgttggtg	tacagtcttt	attgtaagtc	tgatacaaaa	240
tgctaataaa	tttaattgtt	ttcttcctta	atttattggc	atagttcttc	aggtagcacc	300
tcatttttat	taatgatatt	gggattaact	atgaacaagc	tatatgtaga	catttgcatt	360
taaggacatt	gcagtgggtc	aaagatccca	tcattgcagc	ttgnatcctt	tagatccaat	420
cggaaacttc	tggagccttac	attaaatgct	catttgagct	aaatagnaat	ctggtnaacc	480
aganttgggc	aatactttta	aaganactgg	ggacnattan	ggntagannng	ggctatttcc	540
cctttnaggg	nggg					554

<210> 452

<211> 566

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(566)

<223> n = A,T,C or G

<400> 452

acaaataaat	tgtatgcttt	ccggataagt	gacatgttta	tatgggtgata	aaggggaatta	60
taatgctctt	aactccttatg	tagtatgttc	tcatacaaaat	caccaagcat	gagaacactg	120
tttagtctca	ttcatcactc	agcacagcct	ctttctgtcc	acttcagggc	caagtctttg	180
ccatggcccc	acataacgtg	taaattagct	tcagggatca	aaaatccttg	aaaacccagt	240
ttgctgagcc	ttgaagggaag	ccttttagacc	cagcttcaat	gaagtcacag	ctccctgagg	300
gtcctgggtg	actggaggcg	gcctcccaag	cctgggagct	gtgtgcctgg	atgggtctcac	360
tgggggtgat	acccaagctc	atggctccct	ctcaacctct	aacccttctt	aacacaagtc	420
acccctggnc	ccttgagcac	tcctgaagtc	ctcttgaaag	gacatttcta	ggctnctaag	480
angcctgggt	ccttcagctg	gcaccctnan	tttaccagcc	nggnangcag	gntttccaan	540
ttntgctggg	tnaanaaanc	ccgncc				566

<210> 453

<211> 688

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(688)

<223> n = A,T,C or G

<400> 453

ggtactccta	cttcattttt	gaaggcttgt	aactgctgag	gtgtaggtgc	tgctcacattc	60
aacattttca	ctgccacatc	accatgccac	tttcccttgt	agactgttcc	aaatgatcca	120
gatccaattc	tttgtcccac	tgtaatctgc	ccatcaggaa	tctcccaatc	atcactcgag	180
tcccgtctac	caagtgtttt	cattcgattc	ctgtcttctg	aggatgaaga	tgacttcctt	240
tctcgctgag	gtcctggaga	tttctgtaag	gctttcacgt	tagttagtga	gccaggtaat	300

gagggcagggg	gggtagcaga	caaacctgtg	gttgatcctc	catcaccacg	aaatccttgg	360
tctctaataca	agtcataaat	attgacaggt	tctattgtgt	ttatatgcac	attggggagc	420
tgatgaggat	cggncctcgtt	gcccacaaattg	aattccatga	tcttcatctg	ctggggccgaa	480
nggctgnngga	aatgggaatgg	gttttgaaga	gaccgactgg	tgagaattgg	ggcccaatan	540
aatcnaggcg	gggtgccgaaa	gggatgatcn	cantgtaggc	agtctttggg	aaggaccctn	600
ttctgnngga	ttgggggggt	taannacttg	gggacaaccg	caaatacaant	ggcctattaa	660
nccttaggga	aattntanct	gccngggg				688

<210> 454

<211> 565

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(565)

<223> n = A,T,C or G

<400> 454

actggctgcg	aggcgccagt	cgatcaatgt	atgacaggag	ctgagacttg	gccacaccag	60
gatcccccat	cagacagatg	ttgatgttgc	cccggatttt	catgcctcga	ggagactggg	120
ccacaccccc	gactagcagg	agcagcagtg	ccttcttcac	atcttcatgc	ccgtatatatt	180
ctggggcgcat	tgaagctgcc	agcttttctg	agaaaaatcct	cctctgcaat	ttgcctcagc	240
tcctccctgg	tgagctctcc	agccccagac	tcatcatcct	cactcttggt	catcttcaca	300
atccgatggg	cttccaggta	ggtttctgag	agtaaaccct	gtacttgatg	cactttgcac	360
agacaggggtg	tgttgaatag	gcattatatt	ataaggaaaa	gaagtctgtg	gtgactgggt	420
tgaaataaag	tggtaatggg	gatggagggc	agntcttttg	gatttgcttg	gtantgctga	480
tgggagacng	gagaccacct	ngggcgcgaa	cacgcttaag	gggganaatt	cngcacactg	540
gggggcccgt	ctataggnng	ccnnc				565

<210> 455

<211> 566

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(566)

<223> n = A,T,C or G

<400> 455

acagtcctga	ttgcatcata	attgtggttt	ccaacccagt	ggacattctt	acgtatgtta	60
cctggaaact	aagtggatta	cccaaacc	gcgtgattgg	aagtggatgt	aatctggatt	120
ctgctagatt	tcgctacctt	atggctgaaa	aacttggcat	tcatcccagc	agctgccatg	180
gatggatttt	gggggaacat	ggcgactcaa	gtgtggctgt	gtggagtggg	gtgaatgtgg	240
caggtgtttc	tctccaggaa	ttgaatccag	aaatgggaac	tgacaatgat	agtgaataat	300
ggaagggaagt	gcataagatg	gtggttgaaa	gtgcctatga	agtcctcaag	ctaaaaggat	360
ataccaactg	ggctatttga	ttaagtgtgg	ctgatcttat	tgaatccatg	ntgaaaaatc	420
tatccaggat	tcatcccng	tcaacnatgg	tnaaagggga	atgtatggca	ttggagaaat	480
gaancttttc	tngncccttc	cntgnatccc	ncaanggncc	cggggattna	acnagcgggt	540
ttnaancccn	aanctttaag	ggnggg				566

<210> 456

<211> 559
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(559)
 <223> n = A,T,C or G

<400> 456

ggctcctggcc	tcagcccgcc	acatcaccct	gacctgctta	cgcccagatt	ttcttcaatc	60
acatctgaat	aaatcacttg	aagaaagctt	atagcttcat	tgcaccatgt	gtggcatttg	120
ggcgctgttt	ggcagtgatg	attgcctttc	tgttcagtg	ctgagtgcta	tgaagattgc	180
acacagaggt	ccagatgcat	tccgttttga	gaatgtcaat	ggatacacca	actgctgctt	240
tggatttcac	cggttggcgg	tagttgacct	gctgtttgga	atgcagccaa	ttcgagtga	300
gaaatatccg	tatttgtggc	tctgttataa	tgggtgaaatc	tacaaccata	agaagatgca	360
acagcatttt	gaatttgaat	accagaccaa	agtggatggg	gagataatcc	ttcatcttta	420
tgacaaagga	ggaattgagc	caacaattgn	atgttggatg	gtgggttgca	tttggtttac	480
tggatactgg	catagaaagt	ggtntctggga	gaaaaaccta	tgggggcaga	ncntttttta	540
agcctggcca	ananagnt					559

<210> 457
 <211> 552
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(552)
 <223> n = A,T,C or G

<400> 457

gttacgacaa	aatttaagag	gaataacaaa	tacaaatttt	ctgttaagaa	cggaaagggtg	60
caaactagca	gagtcaatac	tggttaaccag	aaggcactaa	tccaaacaca	taaattttcaa	120
aagctgggta	tattatggaa	taccatata	actggccttt	gccagtttgg	gattttctgca	180
atagcaataa	gcctcgtttc	tgtttccaat	tataacaaca	aaaagatgag	ttactaatga	240
acattccact	acagaagtct	aggctatggt	gataaattga	aaacttatct	agactactct	300
gtctaagagc	aataaaaaagt	aaacactctt	ttatccagca	gcactaggaa	acaggggtgaa	360
tttaccaaga	taaattagggt	tggggatacc	tactgccaac	ttgtgcgggt	gtcgaattca	420
ctgnaatatg	tattcctctt	attgatagag	ctcttgaatg	naaaccacct	anaagtgagg	480
ggaaaagctt	caggatcatg	gnccacaatt	atgntatagn	gcttttngng	ggtngagccn	540
aaccccgntn	cc					552

<210> 458
 <211> 561
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(561)
 <223> n = A,T,C or G

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<400> 458
acccaacaa tcttcaagcc acagtccaag agaagtctca ggaaagcaga cgtagaggaa      60
gaatccttag cactcaggaa acgaacacca tcagtaggga aagctatgga cacacccaaa      120
ccagcaggag gtgatgagaa agacatgaaa gcatttatgg gaactccagt gcagaaattg      180
gacctgccag gaaattttacc tggcagcaaa agatggccac aaactcctaa ggaaaaggcc      240
caggctctag aagacctggc tggcttcaaa gagctcttcc agacaccagg cactgacaag      300
cccacgactg atgagaaaaac taccaaaata gcctgcaaat ctccacaacc agaccagtg      360
gacaccccag caagcacaaa gcaacggcca agagaaacct caggaaagca gacgtagagg      420
aagaattttt agcactcagg aaacgaacac catnagcagg ccaagccntg gncaccccaa      480
aaccngcngt nagtgggtga gnaaaaaatt cncccanttt tgggnaactt ccgngcaaa      540
nttnggcccn tntttggnaa a                                     561

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<210> 459

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(468)

<223> n = A,T,C or G

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<400> 459
ggtacctcga catcctgaac actggataaa aaagttgatt aaatccagaa gtgcgatgtc      60
cctgtcttgt ttatatgatt caatccagtc atccaccacg gactgcattg cacttttccc      120
cagtttcacc acctcaaata atgtgacagg ctccccttcc ccattctgtt gaggggtgtcc      180
attagctctt ccacggcctg ctctctaat tccagcttca attctgctct tctcacctgg      240
agattttcga ggtttcttat ttgtagatgg aggcgggcca ggacgacccc tttttctttt      300
tcttttgacc tctgtttctt caagctcgct gccagcatcg gaatgggcag tagtttcatt      360
agttgaatcc tgtaacactg gtaattctga agtaatcatt gctggagagg cctttcacaa      420
tgcagcaaaa taatcaagtg ctgnacctgg ccgggcccgg cgctcgaa      468

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<210> 460

<211> 566

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(566)

<223> n = A,T,C or G

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<400> 460
acttcttgca tgttgtcaca tgttgctgtg agaatcagggt gctgcctata tggctccact      60
gggagagggc agatggaagc cgtcgctca tctgtcgtgg aacgtgtgct gtgcacctcc      120
tccctttgct gatcttaatc tctgtccttt tactgtaata aactgtaact gtgagcctaa      180
cagctttcct gactctagtg agtcccttcta gcaaatgaaa ggaggggtgg ctggagacc      240
tatgaacttg cacctgcccc cgtcgttttg aggtctggca caggaggga ggctgggtctc      300
tttgaggggg gtcttcattc attgggggtcg ggtccaactc tggaggccca cgtccttgcc      360
agctccagtc tctctcccc ctccagtcctg acgctgtcac cttgtgccct ctgtctgtgg      420
atcctgggaa gagctgntct ctctgctcac agctgaatan gagacatgcc cattagctga      480
ggcgcttgca tgcttgact actcgattgn caaangtnca agngntccca nnnncccccg      540
ggtctatgga naannggggg gnanan                                     566

```

<210> 461
 <211> 570
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (570)
 <223> n = A,T,C or G

```

<400> 461
ggtactatag catagcctgc ctttgctggt gtgtggcgat taggcctggt ggaactgcca      60
tcaataaatc aagcgtgac aggggtgagga acaggggaaga aggaaatgtg gggaaatggg      120
atgaacatca ggtggatcac agagatgcag tcatgggggt caggtgtggt atccggaata      180
atgtggggagg ctggattgaa gtccggggcca ggaacaatgg taattgtggg acttaacaaa      240
aagtgagaac agctgaagga gtcagggagc agaaagtata tgcgtcaggt gtgaggaaga      300
aaatagattt tggaagttaa gagaaatgta gagagtgaag tgagcatagt ttgtgatttt      360
gagggcctct aatagtatta aagcagtggt agcccgttac accgcagaca tganggctag      420
gctaaaacag taagggccaa gttgtttgca cagaaaggct tcaggggtgcc ggtcctggct      480
cttgggtaag aattttggac cggacttaac catgcctaag gaaggggaag gagttgtngt      540
tttgnaggg gaccagggt tgggaaaaann

```

<210> 462
 <211> 573
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (573)
 <223> n = A,T,C or G

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<400> 462
cgaggtacca ccagtatatg gaatgttagg gaaaaacttt gttccagttc cttttttttt      60
tctttctact ttcaagttta agtgaaccat actgaaatga ccaacaagtc tgccctgtaaa      120
gttacatgtc atgatttgtt tgttaaataa ttatggggga gaaaatgaag taaatgttgc      180
tgatgatccc catatttatt gatcatatta aggttggtta tatagtttgg aaatgaccag      240
ccccctaagc agtgtttgat taacttatgc taatcagatg attactcata tattctgcta      300
atcttctagc tttattcttg ttatttgtaa aaattattag ccaaatgcct tcctaggtgg      360
atccagttgg aagatatgtc cagaaacctg aagaaaaatt gacgctgcct ttgtgtgctg      420
gattgctcta cttgattaga tcatgatata tcaaggntga attttttagag ggaaaattaa      480
ttctgatata ttattggatc ccttgataag ntttttctct gatttttttt tttcccaaaa      540
gaatttttca tttgngnccct ngcccggcg ggc

```

<210> 463
 <211> 574
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (574)

<223> n = A,T,C or G

<400> 463

accatatacct	gtgtttgaat	caaaccgga	gttcttctat	gtggaaggct	tgccagaggg	60
gattcccttc	cgaagcccta	cctggtttgg	aattccacga	cttgaaagga	tcgtccacgg	120
gagtaataaa	atcaagttcg	ttgttaaaaa	acctgaacta	gttatttcct	acttgccctcc	180
tgggatggct	agtaaaataa	acactaaagc	tttgacgtcc	cccaaaagac	cacgaagtcc	240
tgggagtaat	tcaaagggttc	ctgaaattga	ggtcaccgtg	gaaggcccta	ataacaacaa	300
tcctcaaacc	tcagctgttc	gaaccccgac	ccagactaac	ggttctaacg	ttcccttcaa	360
gccacgaagg	gaagagaggt	tttcttttga	ggcctggaaa	tgcccaaaat	cacnggcctt	420
aaaacaggaa	ggttggaaaa	tctctttcaa	tgagaaaatg	tggggnaact	cttgggcctt	480
aaacaagctg	tgaaagggtgc	ccgggtcccgg	taatttgggg	ccttttcccg	gaagacnttt	540
ttgtggaaag	gnttacctga	ngggggggcc	cttt			574

<210> 464

<211> 458

<212> DNA

<213> Homo sapiens

<400> 464

ggtactgccg	ctcggagatc	tttacttggt	tttactttga	acatgagcag	agaaaagaca	60
aagaaaaaga	tggccatggc	aaagctgatc	cgatacacag	ctttataacc	aaccagcaca	120
tcacaatctt	tatctgcatt	tatatcagcc	tcattggattt	taaatcccc	ttcacaaaat	180
ccaggaatct	tcttcaagta	agtttccatc	tcttttctct	gcattgatata	ggatacgaca	240
gtgctcagga	ggagaatgaa	agcataaatg	aggcgagtca	ccgtggaatt	cttactgtta	300
ggacagcaac	tacacagcaa	acatgaggca	ccgctgcaga	ggcatggaac	ccagctggcg	360
agggagaaga	cacccagcac	agcccccatg	gtgacgccag	tgatggaggt	ggccggctcct	420
gaggctgctt	tctaacacgg	tggttaactgc	cagctgag			458

<210> 465

<211> 580

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(580)

<223> n = A,T,C or G

<400> 465

gcgcccgang	tacttcacca	tcactgactc	catggacttg	atcagccgnc	gctggatgta	60
tncagtctca	gnagtnttga	cagccgtgtn	aatgagcccc	tcacgacccc	ccatggngtg	120
gaaaaagaac	tcagtgggtg	tgaggccggc	taggtaggag	ttctncacaa	agccacggct	180
ctnaggcccg	tagtcatcct	tgatgaagtg	aggcagagtc	cggtgcttga	agccaaatgg	240
aatccgcttg	ccctcgacgt	tctgctgtnc	aacgacagcg	atnacctggg	agatgttaat	300
cttggaaacct	ttagctccgg	acacgaccat	anacttgaag	ttgttgtatt	canacagggga	360
tttctgagca	gaggagccag	tcttgtctcg	ggcatcgtaa	agaatgcggg	tcacctgatt	420
ctcaaacgtc	tgncgcagan	tggtccctgg	ggngggctcc	agctcattgt	tgngngnctt	480
cttnatgacc	tctantacgt	cctgnttggg	gcttttaana	gggcctgaat	gncccgggaa	540
ggntttanaa	ttncnatggg	gttcccaagg	ccanacttnn			580

<210> 466

<211> 566

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(566)
<223> n = A,T,C or G

```

<400> 466
caagcctttt tttttttttt tttttttttt gggcatgcct gtggttgggtt gacagtgagg      60
gtaataatga cttgttggtt gattgtagat attgggctgt taattgtcag ttcagtgttt      120
taatctgacg caggcttatg cggaggagaa tgttttcatg ttacttatac taacattagt      180
tcttctatag ggtgatagat tgggtccaatt ggggtgtgagg agttcagtta tatgtttggg      240
atthtttagg tagtgggtgt tgagcttgaa cgctttctta attggtggct gcttttaggc      300
ctactatggg tgttaaattt tttactctct ctacaagggt ttttcctagt gtccaaagag      360
ctgntcctct ttggactaac agtaaattta cnagggggat ttaaagggtt ctggggggcca      420
aatttaaagg ttgaactaag aattctatct tggaccaacc agnttttcac cangcctcgg      480
gaagggttgg cgcctntac ctattaaact tncccctatt ttgggacctt naccgggngg      540
ggctcctttt aacngggcnt aagggg

```

<210> 467
<211> 597
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(597)
<223> n = A,T,C or G

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<400> 467
gcgtgggtccg gccgaggtac gtgatgcctt tacagctgaa aaatccaaga ttgagacaga      60
aatcaagaac aagatgcaac agaaatcaca gaagaaagca gaacttcttg ataataaaaa      120
accagctgct gtggttgctc ccattacaac gggctatacg gtgaaaatca gtaattatgg      180
atgggatcag tcagataagt ttgtgaaaat ctacattacc ttaactggag ttcattcaagt      240
tcccactgag aatgtgcagg tgcatttcac agagagggtc tttgatcttt tggtaaagaa      300
tctaaatggg aagagttact ccatgattgt gaacaatctc ttgaaacca tctctgtgga      360
aggcagttca aaaaaagtca agactgatac agttcttata ttgtgtagaa agaaagtgga      420
aaacacaagg tgggattacc tgaccaggtt ttgaaaangg agtgcaaaga aaaaggagaa      480
gcccttncta tgacactgga accagaatcc tngtnagggg attgatgaaa ggtcttaaga      540
aaaatttttg aagaangnga cattgatttt gaagcgnacc ctttattnan gcttggg      597

```

<210> 468
<211> 562
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(562)
<223> n = A,T,C or G

<400> 468

ggtactggat	aaagggctga	catcaagagc	aaacagaagt	cttttcctag	tgcatatgca	60
aactggccaa	ttccttccaa	ctgaatgcat	atttgccaga	tgttactgtt	catggagcaa	120
atagtgggac	ttggctttga	gaaggctaga	aaagatgtaa	cttggtaggt	gtgttcacca	180
gacgtgatgg	cttggaggcc	tgggtgctcc	atcatcagct	cctctcccat	ttcctcagtt	240
tcaagacagg	taaccaaata	ccaattttct	tgacttgtgt	attcttcaag	tatagatgtc	300
acaatctctc	tcagttcttc	tgggtttgtt	ttaatatgtt	tttcgtgaag	atcctcaacc	360
tccagcccag	cagccctgt	aaccagttca	ttaaggatca	tggcagcttg	cttccggtaa	420
accacagatt	gatggtaaag	ttccataaag	tgatccacaa	gcnaataaaa	gattnccata	480
ataaccaagt	agcttgacaa	acctggctna	agagcntgaa	gaatctctta	tccgtgaaga	540
aaccggaata	tcttctntng	gg				562

<210> 469

<211> 533

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(533)

<223> n = A,T,C or G

<400> 469

cgaggtacca	ataccaccaa	ttttgtagac	atcctggaga	ggcaggcgca	agggcttgtc	60
agttggacga	ggttggtgga	ggatgcagtc	cagagcctca	agcagcgtgg	ttccactggc	120
attgccatcc	ttacgggtga	ctttccatcc	cttgaaccaa	ggcatgttag	cacttggctc	180
cagcatgttg	tcaccattcc	aaccagaaat	tggcacaaat	gctactgtgt	cggggttgta	240
gccaattttc	ttaatgtaag	tgctgacttc	cttaacaatt	tcctcatatc	tcttctggct	300
gtaggggtggg	ctcagtgga	tccattttgt	taacaccgac	aattagttgt	ttcacaccca	360
gtgtgtaagc	cagaagggca	tgctctcggg	tctgccattc	ttggagatac	cagcttcaaa	420
ttcaccaaca	ccagcagcaa	caatcaggac	agcacaagtc	aggctgagat	gtcctgnaat	480
catgnttttg	ataaagctct	gggtcctggg	ccatcaatga	tagccatagt	acc	533

<210> 470

<211> 672

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(672)

<223> n = A,T,C or G

<400> 470

ggtacacccat	ataaacagca	gatgaagtcg	gagagatagt	ctaatacact	tagatcatgt	60
tccaccacaa	tgatatatct	atctggattt	attagagatc	gtatagtaat	agcagccttt	120
aaacgctgct	tgacatctag	gtaactagaa	ggctcatcaa	acatgaaaat	atcagctttc	180
tgtatgcaaa	cgacagcaca	agcaaattct	tgcaactctc	ctcctgaaag	atcttcaaca	240
tttcgttctt	ttaggtgggt	taaatcaagc	tgctgacata	caattgcctg	tgtctttgtt	300
tcactctttc	gggtccaaaat	agatcccact	gtcccccttg	cagccttagg	aatctggtct	360
acatattgag	gtttgatgat	ggcttttagg	tcactcttcta	gaatctttgg	aaagnaattt	420
tgnaattcag	atccacngaa	ataagtcaaa	atcttctggc	agtcaaggan	gatcatcgga	480
cctgncccg	ccggccgntt	cgaaaggcca	aattccagca	cacttggccg	gccggtactt	540
agnngaatcc	nagcttcggg	ancccangcn	ttggcgnnaa	tcatngggca	taactgggtt	600

ccctggggggg aaaaatggta atccccggta ccaanttcnc cccnacatac cnaacccgga 660
 agccttanag gg 672

<210> 471
 <211> 387
 <212> DNA
 <213> Homo sapiens

<400> 471
 cgaggtgagc tttgaaacaa ctgatgagag cctgaggagc cattttgagc aatgggggaac 60
 gctcacggac tgtgtggtta tgagagatcc aaacaccaag cgctccaggg gctttgggtt 120
 tgtcacatat gccactgtgg aggaggtgga tgcagctatg aatgcaaggc cacacaaggt 180
 ggatggaaga gttgtggaac caaagagagc tgtctccaga gaagattctc aaagaccagg 240
 tgcccactta actgtgaaaa agatatttgt tgggtggcatt aaagaagaca ctgaagaaca 300
 tcacctaaga gattattttg aacagtatgg aaaaattgaa gtgattgaaa tcatgactga 360
 ctgagacctg cccggggccgg ccgtcga 387

<210> 472
 <211> 241
 <212> DNA
 <213> Homo sapiens

<400> 472
 ggtacgaatc gtctcctggc actgtgcagg cccacagctg acggcgatga cctccttcac 60
 cagcttcttc tccttgagcc gcacagcctc ctccaccgag atctcacaga aggggttcat 120
 ggagtgttc acaccatccg tgaccacacc ggtcctgtca ggcttcactc ggatcttcac 180
 ggcgtagtcg atgaccctct tgacagctac gagcacgcgc agctccgcca tcttcccgcc 240
 g 241

<210> 473
 <211> 470
 <212> DNA
 <213> Homo sapiens

<400> 473
 ggtactagtt cactatcggt gtctgattag tatttagcct taccgggtgg tcccggcaga 60
 ttcagacagg gtttcacgtg ccccgcccta ctccaggatac atctatgaga ttttatgatt 120
 tcgtatacag gaatatcacc ttctatgttg aagctttcca acttcttcta ctatcataaa 180
 attttgtaac tcaatgtaag atgtcctaca acccctttt acaggtttgg gctctttcgc 240
 ttctgctcgc cactactgac gaaatcatta tttattttct tttcctgttg ctactaagat 300
 gtttcaattc gcaacgtgtc tcgctaattt gactatggat tcatcaaaaat gcaactgagg 360
 tttgctcagt taggttaccc cattcgaaa tctccgtatc atagtatttatt tccaactcca 420
 cgaagcttat cgcaggtaat cgcgtccttc atcgacttcc agacccaagg 470

<210> 474
 <211> 637
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(637)
 <223> n = A,T,C or G

<400> 474

acctcttccct	gataagattg	aagtaaaaaac	tggtgaggaa	gatgaagaag	aattcttttg	60
caaccgcgcg	aaattgtttc	gtttcgatgt	agaatccaaa	gaatggaaaag	aacgtgggat	120
tggcaatgta	aaaatactga	ggcataaaaac	atctggtaaa	attcgccttc	taatgagacg	180
agagcaagta	ttgaaaatct	gtgcaaatca	ttacatcagt	ccagatatga	aattgacacc	240
aaatgctgga	tcagacagat	cttttgtatg	gcatgccctt	gattatgcag	atgagttgcc	300
aaaaccagaa	caacttgcta	ttagggttcaa	aactcctgag	gaagcagcac	tttttaaagt	360
caagtttgaa	gaagcccaga	gcatttttaa	agccccagga	acaaatgtag	ccatggcgctc	420
aaatcaggct	gcagaattgt	aaagaaccca	caagtcatga	taacnaggat	atttgcaaat	480
ctgatgctgg	aaacctgatt	ttgaatttca	ggntgcaaga	aagaaagggc	ttggtggcat	540
tgaaccactg	ntcattaaga	atgcttcact	gctaaaaatg	ngattatgcc	aaattaancc	600
agcaataaga	ctcgtggccc	ccttaactga	actgttt			637

<210> 475

<211> 647

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(647)

<223> n = A,T,C or G

<400> 475

ggtacaagcc	atagtggaaa	gaatgaatct	ctccctaaaa	tagcagttgc	aaaagcagaa	60
agggggagac	agagaatatg	gaaccccaca	gatgcaactg	aacctagcat	tattaacagt	120
aaattttttg	agcctgcccc	aaggccacat	gttatcagca	gctgaagagc	atctacagaa	180
accagctgca	aggacaaaaa	cagaacaact	gatttggtgg	agagatccga	taacacgaag	240
ttgggaaata	ggtaaaaata	taacttgggg	gagaggttat	gcttggtgtt	ctccaggcca	300
atatcaatag	cctatttgga	taccatcaag	acacctgaaa	ccttatcgtg	agccagatgc	360
tgagggaatag	actccgggag	ggatccctgag	aacccccag	ttgcagccat	gtttgagact	420
gatgctgagg	aggactccaa	ctgtcacgag	cacagcccc	atctggggac	agatcaagaa	480
gctgtcacag	atggaagaag	aaaaccttga	ggaaagcagg	acaatcggtc	ccatgagtaa	540
aatctgatgg	tagctataaa	ccgggtttan	cacnccatgn	tattctttng	ttaaggctga	600
cncngagaac	aattatacct	antggggata	tttatcatct	tggtngg		647

<210> 476

<211> 665

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(665)

<223> n = A,T,C or G

<400> 476

accttattag	aaagcgacgg	caaactatgt	gccagcagcc	gcggtaatac	ataggtcgca	60
agcgttatcc	ggaattattg	ggcgtaaagc	gtccgtaggt	tttttgctaa	gtctggagtt	120
aaatgctgaa	gctcaacttc	agtccgcttt	ggatactggc	aaaatagaat	tataaagagg	180
ttagcggaat	tcctagtga	gcggtggaat	gcgtagatat	taggaagaac	accaataggc	240
gaaggcagct	aactggttat	atattgacac	taagggacga	aagcgtgggg	agcaaacagg	300

WO 99/64576

PCT/IB99/01062

attagataacc	ctggtagtcc	acgccgtaaa	cgatgatcat	tagttggtgg	aataatttca	360
ctaacgcagc	taacgccggt	aaatgatccc	gcctgagtag	tatgctcgca	agagtgaaat	420
ttaaaggaat	tgacgggaac	ccgcacaagc	cggtggaaca	tgtgggttaa	tttgattcta	480
cgccgtagaa	ccttaccac	ttcttggaca	tcttctgcaa	agctatngga	gatatagtgg	540
anggttaaca	gaatggcccc	aaggtgcatg	ggtggccgca	gctcgtgtcg	tgagaaggta	600
nggtnaagtc	ctgnaacgag	cgccaaccnt	ttcttttagta	ctaataataa	gttaaggact	660
ntagn						665

<210> 477
 <211> 319
 <212> DNA
 <213> Homo sapiens

<400> 477						
cgaggtactt	ttcaattatg	ttaacgtaaa	atactcgtaa	cgaatgtagt	atgagtttaa	60
agtgagcttt	tcagatccta	taagtgcac	ctaagtaatg	acaggcttta	agataaggaa	120
tatatgcatt	ttgttaaggc	agaaatctca	taaaatttca	tgaaaaacca	tggtcaatcc	180
aatgatgcac	tttttaagac	aagtttgtct	ggaaactgga	agggtcaaaa	gacaacaaaa	240
aagcacacac	caaaaaacct	cactttaagc	aatctataa	cttgaaaaaa	aaaaagccta	300
agaatattct	gagagtggg					319

<210> 478
 <211> 419
 <212> DNA
 <213> Homo sapiens

<400> 478						
accacgatg	atgtggggag	cttccatctg	cagtttctgc	acctcagcac	gcacgttggt	60
gccccgata	caggcgtgac	aggaggcgcc	catgtagtct	cctagtgcc	tgaccacctt	120
ctgtatctgc	tgagccaatt	ctcgagtggg	tgctaggact	aaggcctggg	tggtcttttag	180
atctaattca	atctgctgca	gaatcgatat	ggcaaatgtg	gccgttttcc	cagtcccaga	240
ttgggcttga	gcaatcacat	cataaccctt	gatacaaggt	agaatgggct	cgctgctgga	300
tggcagaggg	cttctcaaaa	ccataggcgt	agatgccacg	gagaagggac	tccgagaggt	360
tcatgtcatc	aaagctgtca	acaatctcat	tccagttact	ctcgatgacg	ccttcgacc	419

<210> 479
 <211> 312
 <212> DNA
 <213> Homo sapiens

<400> 479						
acatcctgga	gacctgaaga	attctgttga	agtcgcactg	aacaagttgc	tggatccaat	60
ccgggaaaag	tttaataccc	ctgccctgaa	aaaactggcc	agcgctgcct	accagatcc	120
ctcaaagcag	aagccaatgg	ccaaaggccc	tgccaagaat	tcagaaccag	aggaggtcat	180
cccacccggg	ctggatatcc	gtgtggggaa	aatcatcact	gtggagaagc	accagatgc	240
agacagcctg	tatgtagaga	agattgacgt	gggggaagct	gaaccacgga	ctgtgggtgag	300
cggcctggta	cc					312

<210> 480
 <211> 640
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(640)
 <223> n = A,T,C or G

<400> 480

ggtaccaaca	attcctccta	ccagtggctg	agcatactct	gcagagtcag	cctgcagcac	60
tgtggtgact	tctcttggac	tcaggtgatt	aacttcgctg	ctgctatagc	gaactggggt	120
ttcctcatgg	tccactgctt	ttgcaggaag	aaactgcttc	attcctttcc	accaacctgc	180
ccggccccag	taaggtaagt	cataggtgcc	ttcagttttt	ttctttctgt	ttctccagtg	240
ccaagcacac	actaatatga	gaatgagagt	agtgaggacc	atgaccagca	cagggacaag	300
aactgcagcc	agcgctacat	ctttggttac	atttggagtt	acggtagtat	ttctgatatc	360
aggactggca	gttgtttgtt	ctgtctgtgc	aggaaattca	ttgctactgc	gaagttgtag	420
tggttgcgta	aattttgggg	cacgaccttt	ggctattttg	gaggggctgt	agtggttttg	480
aggncattgc	tgttncnaag	aggtggaggt	tgagtaagtt	ttggangacn	actttangaa	540
taaactgaca	tccgagcagt	tcattttcat	ggcaattttc	gctgccatgg	gtaaggatta	600
ctctaataaa	cgtgccataa	ttggtggcaa	aagtattccc			640

<210> 481
 <211> 501
 <212> DNA
 <213> Homo sapiens

<400> 481

ggtacatttc	cttgtagact	ctgttaattt	cctgcagctc	ctggttgggt	ctggagcaga	60
tgatctcaat	gagagagtc	tcgtcggttc	ccagcccctt	catggaagct	tttagctcag	120
aagcgtcata	ctgagcaggt	gtcttcaata	ggcccaaaat	caccgtctcc	aggtggccag	180
ataaggctga	cttcagtgtc	gatgcaagtt	cctttttggt	ccttctctgg	taggcgaagg	240
caatatcctg	tctctgtgca	ttgctgcggt	tgggtcaaaat	gttgacaatg	gtgacctcat	300
ccacaccttt	ggtcttgatg	gctgtttcaa	tgttcaaagc	atccccgtca	gcatcaaaag	360
ttagtatagg	ctttgacaga	cccatatgca	cttgggggtg	tagagtgatc	accctccaag	420
ctgagcttgc	acaggatttc	gtgaacagta	agacattttg	aaaggaagct	gggcccgtgc	480
gcccagagagc	tgaaagcgtc	c				501

<210> 482
 <211> 306
 <212> DNA
 <213> Homo sapiens

<400> 482

ggtacctata	cagggatggc	tcccacgcat	ccctcagtga	ccccaaaccc	atctccactt	60
acactcaggc	actcccagga	cctgacagct	actccccgtt	atcgctcttc	agttcgaagc	120
cctggccaat	ctaccagccc	acatgacgca	gttacctggc	catttctcca	cggttcccgt	180
gagggcccca	caccagcccg	cacaagagcc	cctcctgcat	tccgtctcca	cacacaggcc	240
tgtgtatgca	cttgtactgt	tcacactctt	gctagcagaa	gaggccccctg	taatggccga	300
tatccc						306

<210> 483
 <211> 663
 <212> DNA
 <213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(663)
 <223> n = A,T,C or G

<400> 483

acagaatttc	ttattttcttg	aagactctgt	ggttgaccac	ttcttcatta	gttacctgca	60
gcaagacacc	ttccatttta	ctaccaacac	cactgaagga	accaagaaaa	gctttattaa	120
tgatcacttg	gcttgccctca	gctgttgaaa	tgaagcactt	tacagtcttt	gtggcagcag	180
aatataacttg	tccatgggttc	atatcaatgc	catggcaaat	aggaagaagc	tcagtatcgg	240
ctcctccac	cataaccccc	acttcctcca	ctgcctcctg	gaccatagtt	tcctccacca	300
tatgggtccc	ccatgttctt	gctaccacca	aagtttccac	tcttcacacg	ggccaagtca	360
gaaagaccat	gacataaaga	gagatggcga	aactgaaacg	gattatttct	tttgncttca	420
aaacatctca	tcaattttatc	actcatccat	tctacctggg	acttagaaaa	ctccaccaca	480
ttgtaactga	cattattttag	gagtgccaat	gagtaaacac	ccaatcctgn	atcttttagtc	540
cctccaaatc	tggatccaag	aagttttagcc	aggttccaaa	cttntggctg	ntggggggcca	600
ctgntattaa	cacattttca	ttancttgaa	nnggttccag	gacanttggc	anaacttggt	660
ant						663

<210> 484
 <211> 228
 <212> DNA
 <213> Homo sapiens

<400> 484

cttgggtctg	aaagtccgatg	aaggacgcga	ttacctgcga	taagcttcgt	ggagttggaa	60
ataaactatg	atacggagat	ttccgaatgg	ggtaacctaa	ctgagcaaac	ctcagttgca	120
ttttgatgaa	tccatagtca	aattagcgag	acacgttgcg	aattgaaaca	tcttagtagc	180
aacaggaaaa	gaaaaaaaaa	aaaaaaaaaa	aaaaaaaaag	cttgtagc		228

<210> 485
 <211> 672
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(672)
 <223> n = A,T,C or G

<400> 485

acggagccct	ctgaaaaatg	acaaagatgg	tatgatgtat	ggcccaccag	tggggactta	60
ccatgacccc	agtgccagg	aggctgggag	ctgcctaata	tctagtgatg	gtctgcctaa	120
caagggcag	gaattaaagc	atggctccca	gaagttacaa	gaatcctggt	gggatctttc	180
tcggcaaaact	tctccagcca	aaagcagcgg	tcctccagga	atgtccagtc	aaaaaaggta	240
tgggcccggcc	catgagactg	atggacatgg	actagctgag	gctacacagt	catccaaacc	300
tggtagtggt	atgctgagac	ttccaggcca	ggaggatcat	tcttctcaaa	acccttaaat	360
catgaggagg	cgtgttcggt	cttttatctc	tcccattccc	agtaagagac	agtcacaaga	420
tgtaaagaac	agtagcactg	aagataaagg	tcgccttcct	tcactcatca	aaaagaaagg	480
cgcttgatta	aagcattttca	atttcctatg	gccccatctt	ttnttcacag	gtccngggat	540
antcaaggtc	tattncctta	agaagagaat	tnccttccan	gggncctttc	cnaggtcccc	600
aatagtttna	aaaactggnc	ctggtnggta	ancctttann	aaagcccttg	gttaaaancc	660
cnaaanannng	ng					672

<210> 486
 <211> 637
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(637)
 <223> n = A,T,C or G

<400> 486

ggtacaatag	agcttttgat	ctgatacaag	aatttagaaa	tataaaacaa	aataactata	60
aaagtttaga	ggcatttgaa	tggcatttcc	ttagaagaac	ctgctaactc	tgtatcattc	120
tgatgtggat	tcctagtcac	gtggggtgaa	atgcatattt	ttcccccttt	gctggatcac	180
tggcctttct	tcaaaagcta	taatgccatg	aacacacatc	ctaggagtct	ctataatggt	240
aacagaagct	ccaaatacca	agccaatcaa	agatggggaga	gggcagggga	accataaagg	300
cgaaggggtcc	aaaggtggct	gttactgaga	acttgccctt	tccaaaatgt	gaaagtcata	360
gtgcttcttg	cttggtctca	gcttaaactt	gttaactgag	ttaatttggt	tcttcagtgc	420
attctgtgca	gctgaaatgg	aggggaatgt	ggctaagacg	gtgtangtgg	angccaagtc	480
actggggttta	gaaccgttca	agggttggca	gtggtggncc	ccactggcca	cagcagaagg	540
ggttgaccac	cctgggttgg	gactgggggg	tncccggann	cccccggatn	ttggngccca	600
attttaaga	agttncacca	aaaacttttt	aacttng			637

<210> 487
 <211> 618
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(618)
 <223> n = A,T,C or G

<400> 487

ggtacctctt	cccatgactg	cacccagctc	cagggggccct	tgggacagcc	agagctgggt	60
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ccccctcaac	ctcaccattg	tgaagcacct	actatgtgct	gggtgcctcc	cacacttgct	180
ggggctcacg	gggcctccaa	cccatttaat	caccatggga	aactgttgtg	ggcgctgctt	240
ccaggataag	gagactgagg	cttagagaga	ggaggcagcc	ccctccacac	cagtggcctc	300
gtgggtatta	gcaaggctgg	gtaatgtgaa	ggcccaagag	cagagtctgg	gcctctgact	360
ctgagtccac	tgtccattt	ataaccccag	cctgacctga	gactgtcgga	gaggctgtct	420
ggggccttta	tcaaaaaaag	actcagccaa	gacaaggagg	tanagagggg	actgggggac	480
tgggagtcaa	aacccctggc	tggggttaag	tccacgtntg	gcnagcactg	gctttttctt	540
ttgggccttg	gttccttggtg	ggcaaagaat	gatgaccnct	attttcagga	cttttccttc	600
ngttncagg	ttttntg					618

<210> 488
 <211> 618
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(618)

<223> n = A,T,C or G

<400> 488

ggtacagtcg	tctgaagaag	ctctgagggc	ggcaggacca	gccagcagca	gcccgaagctt	60
ccctccatcc	ccctttaccc	tcttttgctgc	agagaaaactt	aagcaaagg	gacagctgtg	120
tgacatttgg	agagggggcc	tgggacttcc	atgccttaaa	cctacctccc	acactcccaa	180
ggttgagagcc	cagggcatct	tgctggctac	gcctcttctg	tccctgttag	acgtcctccg	240
tccatatcag	aactgtgcc	caatgcagtt	ctgagcaccg	tgtcaagctg	ccctgagcca	300
cagtgggatg	aaccagccgg	ggccttatcg	ggctccagcc	atctcatgag	gggagaggag	360
acggagggga	gtagagaagt	tacacagaaa	tgctgctggc	caaataagcaa	agacaacctg	420
ggaaaggaaa	ggtctttgtg	ggataatcca	tatgttaatt	attcaacttc	atcaatcact	480
ttattttattt	tttttctaac	ttcttgga	cttaatttac	tgntttatta	gggtgaaaac	540
tggcnttcta	ngtagggttt	tnttatccca	ggactacctt	gggttttaan	ttaaaaaaaa	600
aaagaaatgg	ntnaaaaa					618

<210> 489

<211> 624

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(624)

<223> n = A,T,C or G

<400> 489

naggtntctga	tgattctcca	natccangta	tagaatatga	ncncgnnctn	cgaaantggg	60
gtganttgat	tcctggggct	gagtatcgat	gtttatgnca	tggaaaacna	gcttattggg	120
atttctcaga	gagactacac	acaatactat	gatcatattt	ctaaacagna	ggaagaaatt	180
cgcanatgca	tacaagactt	tttcaagaaa	cacatacagt	acaagctttt	ntnctattta	240
attgntgtnt	ttttttgtgg	taacnngaaa	gtttattntt	gtctgaaagc	ttttataagt	300
atttaaattnn	acnnagtaat	gaactattca	attgctgnaa	tcgggtcaaaa	tttncnaaag	360
ncgcacacaa	antnntatcc	ttgnncacgn	ancnccatac	actgnccctn	gccaaacacc	420
cttgccggga	accaatcngc	atgacatttc	tgggccgggt	aaatnttata	aagccaaggg	480
cccnggcact	ggttaaggng	ggccttanac	cttttagggg	agggcccnna	taccctnccn	540
cttaaacntc	tggggggngg	tananaatttc	ttataggnac	cgnccttcta	aatcnattgn	600
canttttnng	nccctttggg	tttt				624

<210> 490

<211> 620

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(620)

<223> n = A,T,C or G

<400> 490

ggtacctctt	cccatgactg	cacccagctc	caggggccct	tgggacagcc	agagctgggt	60
ggggacagtg	ataggcccaa	ggccccctcc	acatcccagc	agcccaagct	taatagcccc	120
ccccctcaac	ctcaccattg	tgaagcacct	actatgtgct	gggtgcctcc	cacacttgct	180

ggggctcacg	gggcctccaa	cccatttaat	caccatggga	aactgtttgtg	ggcgctgctt	240
ccaggataag	gagactgagg	cttagagaga	ggaggcagcc	ccctncacac	cagtggcctc	300
gtggttatta	gcaaggctgg	gtaatgtgaa	ggcccaagag	cagagtctgg	gcctctgact	360
ctgagtcac	tgctccattt	ataaccccag	cctgacctga	gactgtcggg	aggctgtctg	420
gggcctttat	caaaaaaaag	actnagccaa	acaaggagggt	agagagggga	ctggggggact	480
gggagtcana	gccctggctg	ggttcangtc	cacgttgggc	aggcacttgc	ttttcttttt	540
nggnctttgg	ttccttggtg	gcaaaagagt	gattgaaccc	cttattttca	agggcttttc	600
nctnatgttn	cangntttnn					620

<210> 491
 <211> 630
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(630)
 <223> n = A,T,C or G

<400> 491						
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tctcaatgag	agagtcctcg	tcggttccca	gccccttcgt	ggaagctttt	agctcagaag	120
cgtcatactg	agcagggtgc	ttcaataggc	ccaaaatcac	cgtctccagg	tggccagata	180
aggctgactt	cagtgtctgat	gcaagtctct	ttttgggtcct	tctctggtag	gcgaaggcaa	240
tatcctgtct	ctgtgcattg	ctgcggttgg	tcaaaatggt	gacaatgggt	acctcatcca	300
cacctttggg	cttgatggct	gtttcaatgt	tcaaagcatc	ccgctcagca	tcaaagttag	360
tataggcttt	gacagaccca	tatgcacttg	ggggtgtaga	gtgatcacc	tccaagctga	420
gcttgccacag	gaattccgtg	aacagtagac	attttgaagg	aagcttnctt	gaggcccaat	480
gtgttcaacc	caaccgggaa	aactnttncg	ggtagaagtg	aaatccgaag	ttgctattgc	540
ttccagaata	acctgggnctn	tncccnaaa	actttaaaac	gttcccacct	tgggcgggaa	600
ccncttaan	gggggaattc	ccgnccnng				630

<210> 492
 <211> 412
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(412)
 <223> n = A,T,C or G

<400> 492						
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caagggtccaa	cagactcctg	atggatccca	gcagagtcca	gatggcacac	agcttccgtc	120
tggacacccc	ttgcctgcca	caagccaggg	cactgcaagc	aaatgccctt	tcctggcagc	180
acagatgaat	cagagaggca	gcagtgtctt	ctgcaaagcc	agtcttgagc	ttcaggagga	240
tgtgcaggaa	atgaatgccg	tgaggaaaaga	ggttgctgaa	acctcagcag	gccccagtgt	300
ggttagtgtg	aaaaccgatg	gaggggatcc	cagtggactg	ctgaagaact	tccaggacat	360
tatgcaaaag	caaagaccan	aaaaaaaaan	nnaaaaaaaa	aaagcttgta	cc	412

<210> 493
 <211> 633

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(633)
<223> n = A,T,C or G

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<400> 493
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gctgagtgtt catttgccgc atccctctgt tgggtcttgg gggccctcca cgacctcgtg      120
gggctccccg tgggccactc tgcccagagc ctgcgttgaa attctgctga tatccatccc      180
gttgatagcc agagtaatcc cggggagcac tgaactgaga ctgtgtataa ccactgtttg      240
gagtgttaga gaatgaaggc cggttaacct natatcctcc tctgaatcca ttggcagggc      300
cccggtatcc attcatcaag cctctagcac cacgggagcc ttcacgagac gcaccacgac      360
tattgtaata ggggctgatt gctacgtgga aatncagtgt tctgctgaag aagctgctgg      420
tgggtaccag tcaactgatg ggactgggtc gggggaaccc atggtaaagt gcccaccac      480
tggttgnaac ttgtcttgct tgaanctctg gttgggtctac cttggggaag cttgactaaa      540
aaaacttttg gtataaattg ggctgggacc ccctanggnn gcaaccctgg gccanntttt      600
tcctnannct taaaaagggg ggggnatgaa ggn                                     633

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<210> 494
<211> 609
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(609)
<223> n = A,T,C or G

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<400> 494
acttaaaagg taaagtagta accaaagaga aaatccagga agccaaagat gtctacaaag      60
aacatttcca agatgatgtc tttaatgaaa agggatggaa ctacattctt gagaagtatg      120
atgggcatct tccaatagaa ataaaagctg ttcctgaggg ctttgtcatt cccagaggaa      180
atgttctctt cacggtggaa aacacagatc cagagtgtta ctggcttaca aattggattg      240
agactattct tgttcagtcc tggtatccaa tcacagtggc cacaaattct agagagcaga      300
agaaaatatt ggccaaatat ttgttagaaa cttctggtaa cttagatggg ctggaatata      360
agttacatga ttttggctac agaggagtct cttcccaaga gactgctggc ataggagcat      420
ctgctcactt gggttaacttc aaaggaacag atacagtagc aggacttgct ctaattaaaa      480
aatattatgg aacgaaagat nctgttccag ctattctggt ccacagcaga acacagtacc      540
ttggccgnga cnacnctaag gcgaaatccg ccactggggg gccgttataa nggatcccnc      600
ttnggaccn                                     609

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<210> 495
<211> 606
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(606)
<223> n = A,T,C or G

<400> 495
 ggtaccaagc tatctttgat aataccacta gtctgacgga taaacacctg gacccaatca 60
 gggaaaatct gggaaagcac tggaaaaact gtgcccgtaa actgggcttc acacagtctc 120
 agattgatga aattgaccat gactatgagc gagatggact gaaagaaaag gtttaccaga 180
 tgctccaaaa gtgggtgatg aggggaaggca taaagggagc cacggtgggg aagctggccc 240
 aggcgtcca ccagtgttcc tggatcgacc ttctgagcag cttgatttac gtcagccaga 300
 actaaccttg gatgggctac ggcagctgaa gtggacgcct cacttagtgg ataaccccag 360
 aaagttggct gcctcagagc attcagaatt ctgtcctcac tgataggggt tctgtgtctg 420
 cagaaatttt gtttctgtta cctgccnngc ggncgctcaa agggcgaatt cacacactgc 480
 ggccgtacta gtggatccaa ctccggaccaa cttggcgtaa tatggcatac tgtttctgng 540
 ggaaatgtat ccgtccaatt cnccacacata cganccganc ntaaaggtaa gcttggggcc 600
 tataat 606

<210> 496
 <211> 279
 <212> DNA
 <213> Homo sapiens

<400> 496
 ggtactcaat gatgctggtc agcgacttcc acgggagaaa atcttctgta atgtccgtga 60
 aatccttccc atatttttcc agggcttcct cgaaaagggt ggctctgat gcagaccact 120
 cctccatctc gtccctgcag agcacgggccc cgccctgcgg caccagcgcc gagatggcct 180
 tggagatgtc gtagatgttc ttgtggagag tatccatggc gtggaacagg gtgatgtctc 240
 gggaggcagc tgcggcgctc atgtgcaggc tgggctgtc 279

<210> 497
 <211> 633
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(633)
 <223> n = A,T,C or G

<400> 497
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 tgattcagct acaggaagac aactaacaat taacaggctc atgaatatat atgaataaag 120
 tgccactaat tttattgtaa taagatataa atagaataaa tcctgacatg gatagtagct 180
 tctgtgttct ctccatcctg agaacagaag ggccataaaa aaacaaagaa gcattaccaa 240
 aggggagttc tagaccaca cggggaactc ctaatacaaa agcaacaaga aagacangta 300
 agactttaaa agttgcagaa gtcctaagaa tagcgccaat gtagtaggccc ctttttaaca 360
 acaacaaana ataaaaataa gagagagaga gaaattagaa atttangaag ttcattaaat 420
 aactgggtact tatattcaag ggaattttatt agtggccagc ctantggggg acccagcntn 480
 taggaaaaga cccttgaaaa ggaccttccc ncacctggga canaaggata gnaccgaccc 540
 cccaggggaag nccgccttgg aaangggatc cnaacttgan gctttttagg gtttcaaaan 600
 tccttgctng gcccgaang gcaggntttn ntn 633

<210> 498
 <211> 601
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(601)
 <223> n = A,T,C or G

<400> 498

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caatcatggt	taaaaacaaa	aatatttaaac	aaatttcattt	cctaataccag	atgatacaga	120
atccaagaaa	tttctgtagg	cacttcactt	tccatagaac	ttcttggttca	gcaggtatat	180
gagaagggtt	acatttcactt	taaccttatc	aaacatttttc	attacagcta	ctccttcata	240
ttgcatctga	agtaaatcct	gaatattgag	ttgcaccttt	tccatctcaa	caccaaggaa	300
ttttgatctt	acatcgaaaa	tgctacatc	ttcagtagct	atgatatcaa	atgtaacatt	360
cttaaactgg	tttgtttgaa	gatcatctat	atctagcagg	acacctttct	catgcagctt	420
tgctgcagt	tacaaactgc	aggctccatc	ctcgtgggt	cgactatgt	gcgcttttaa	480
aaaatattat	ttctaataaa	tctttgaagt	taaaataccg	ttctttcagt	tggncacaaa	540
aaaaannnnn	nnnanganag	aannngnaang	aaagtggggt	gnnnntgggg	nggaaaaacn	600
n						601

<210> 499
 <211> 293
 <212> DNA
 <213> Homo sapiens

<400> 499

ggtactcaag	cttttgacct	catgccttgt	gtagtaaaaa	aggatttggg	ggttttgttt	60
ggttcctgag	agggttgtgt	tttgtttttg	tttccttttg	tttatgtttt	ggcctttcct	120
ctttgtcttt	ccatgtagac	cagatatttg	aaagggcaga	cgatggctag	agggtgaatg	180
tgcagcttgt	ttatacggt	ttttgggaaa	cttaccttgg	atgggaaatc	gaatcgtgga	240
ttcaccaggc	cggtgctggc	acactcaccc	tcgcccttcc	cctccggttc	agt	293

<210> 500
 <211> 630
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(630)
 <223> n = A,T,C or G

<400> 500

gggtactcat	gaattcaagc	cacagagtgg	agcagagatc	aaagaagggt	gtgaaacaca	60
taagggtgcc	aacacaagtt	cttttcacac	aactccaaac	acatcactgg	gaatgggttca	120
ggcaacgcca	tccaaagtgc	agccatcacc	caccgtgcac	acaaaagaag	cattaggtttt	180
catcatgaat	atgtttcagg	ctcctacact	tcctgatatt	tctgatgaca	aagatgaatg	240
gcaatctcta	gatcaaaatg	aagatgcatt	tgaagcccag	tttcaaaaaa	atgtaagggtc	300
atctggggct	tggggagtca	ataagatcat	ctcttctttg	ncatctgctt	ttcatgtgtt	360
tgaagatgga	aacaaagaaa	attatggatt	accacagcct	aaaaataaac	ccacaggagc	420
caggaccttt	ggagaacgct	ctgtcacaga	cttncttcaa	acccaaggag	gaagtgcctn	480
atgctgaaaa	gtttttggatg	actcaactgg	atgggggtatt	ccctgnaacc	aaaacctggg	540
acccaagtcc	ttaaaanccn	nggagactta	cattntgntg	nacaatttgg	gttaaaccnn	600
ttcncaaagc	tttccatggg	ggcangggcc				630

<210> 501
 <211> 240
 <212> DNA
 <213> Homo sapiens

<400> 501
 acatctgaaa taccceccaa acccagaaag cttttcaaca gctaggttgt ccaagaactt 60
 ggaaaattca ccttctgatg tcctccaaga cagattccat tttttataca ccttatttgc 120
 tcagacctgt aacttcagcc tggagtgaac acagacacct agttttcctc aaactcctct 180
 tgggcttttag agagaagggtg ctggcccttt gagccaagca ggttatttgt tagtagtacc 240

<210> 502
 <211> 481
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(481)
 <223> n = A,T,C or G

<400> 502
 ggtacctgtt cttctatcca aacctttcaa ttcattgctac ctgattcatt tatttgacat 60
 agatcttagg cccacttgaa ctcttttctt gtttatctag catagcacia acgtttttcc 120
 agtcttcttt atcaacacta atgcctctta attgcatcag tatttcctat tggaaaatac 180
 atctgttcca gaaaaacatt tggcattcct gaataatttc caaatgtttt taatccaaag 240
 aaaaagggtt aaagcttatt tccctttctt atacacacct gaataaaaatt gatgtgcatg 300
 ttttagggat caattacctt actgttcctt ggtctattta tgtataagaa tgctttttta 360
 agcacatgtc tcatttttaa tgacgcacaa actgaagatg ttaataaaaat ttaagagtaa 420
 tacaatgaaa aatattantn tttnanatan aaaagcttgg acctgccngg gcggccgntc 480
 g 481

<210> 503
 <211> 643
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(643)
 <223> n = A,T,C or G

<400> 503
 ggtactgcat tatttgagaa gctgctcaac ttgcaaaatc agttttcctc tcaataaaaat 60
 tatagctcta atgtttgcat ataaggggaag tagttatcat gttagtaata cctctaataag 120
 tataaaccct accccaaaat tagccagtaa tcctgtagga aggtacaagt ctcagactaa 180
 gtttttagcc acttgtcaaa ttcagtttta aatgcttaga aaacactgag gacacctatt 240
 gaggagggag gggggaaggc cacctgtaaa ggagtccaaa gtatgtgctg gagcagatga 300
 tgacaaagac agaacatcta agaagataga catggaggaa agggagtagt atttccacac 360
 actatgacat tgaaaattca atcatttatg ataggatttt gatccactgc cattactacc 420
 ttgtgggaaa aatctnccaa tgaaaagggt gaaaaattca ttctccaaaa attggcccng 480
 ttttaangag aaaattttag agcagcaccn ttaaaccatg ccgggaactt tggtttaaca 540

aaatatngtg gggcccaaaa aagctcctgt tgcttttagg cctcnagaga tttaccaga 600
acttaaaggn ttncnctggc cttgttcctt aangttgaaa acc 643

<210> 504
<211> 624
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(624)
<223> n = A,T,C or G

<400> 504
ggtactgcat tatttgagaa gctgctcaac ttgcaaaatc agttttcctc tcaataaaaat 60
tatagctcta atgtttgcat ataaggggaag tagttatcat gttagtaata cctctaataag 120
tataaaccac accccaaaaat tagccagtaa tcctgtagga aggtacaagt ctcagactaa 180
gttttttagcc acttgctcaa ttcagtttta aatgcttaga aaacactgag gacacctatt 240
gaggagggag ggggggaagg cacctgtaaa ggagtcctaaa gtatgtgctg gagcagatga 300
tgacaaagac agaacatcta agaagataga catggaggaa agggagtagt atttccacac 360
actatgacat tgaaaattca atcattttat gatccactgn ccattactac 420
cttgtgggaa aaatccttca caatgaaaag ggttgaaaaa ttcattcttc caaaattggc 480
ccnngtttta aggagaaaat nttagagccg ccccttaanc ctgcccggaa cttggnttta 540
ccaaatntca gggngncccc aaaancttct gntgccttta ngntntncan agacttnacc 600
cnngaacttc naggntttnc ctng 624

<210> 505
<211> 652
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(652)
<223> n = A,T,C or G

<400> 505
acaagctaca aatgcttggt cagcagctga ggggcactct tgagtagcgt gtctgaagag 60
tgaataaaaa tccatataaa acaaatttcc aaatagtttc cataggaaca cagataagtg 120
tgacccatat cctagtcttc catatggctg catcatggcg accctactct tacaaagaca 180
tttcaaaact agcagtaatt aagttacatg gtccccccaa atcccttaat tcaagctaaa 240
cttgcgagtta acagctacca gagtgctatc tacacattaa tactagcccc aagcacaggc 300
tgctctgtgg cgtttcatcc cactctccca ggcacaagac acaggcaggg tgctggcatc 360
ctgttcctct acttcgggtg gggaaagtgc gggttctgga attgctgcat gagttgccac 420
gcaggccctg acatcacata gtaanatcgt ccggcctttt gggaaaccca ttgnacctan 480
aaggcancna gcaaccagt gtaagccgcc ccaagggttt cnaaagagcc tttccaatna 540
ccccccatgc cnttttaang gcnnnggttac caagggttn aaaaaatccg attttnanggg 600
cctttacaag gttggggccc ccanaatgcn cggatngnaa aaaaanacctt tt 652

<210> 506
<211> 545
<212> DNA
<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(545)
 <223> n = A,T,C or G

<400> 506
 acaagctttt tttttttttt tttttttttt tttttttatc taaaagtgcc caggtgggct 60
 taaggctgcc anactgcacg cacatctaca gcaacaaggg cttctattcc atctacaact 120
 tggatcgggg gaaaaggag atgtaggaga ggaaggaaaa aagaggggaa aaatatacca 180
 ccaaccctcc cccacaaaaa aagggaaaaa aaaaaatccc accacaggga gatctatgtg 240
 ccaagcataa tggaagagtg tgctcccaaa acagatgggt ttgcacaggc taatgttctg 300
 ctggttttcc ttagagacct attttgaaaa agtttaaaaa gacaggagat ttcaaaaataa 360
 ttcaatcctg gcagaaattc aaactccaaa actaggagca aaatcatcct tcactgaatt 420
 aattcctttt ctctttctct tttcttaaac attttattca ttttatagaa agatttcttt 480
 ttttgngtgc ntttggtcca atcntttgga nantgggtga aggagtacct tggncngnan 540
 cccc 545

<210> 507
 <211> 625
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(625)
 <223> n = A,T,C or G

<400> 507
 acctgtctct ctgccttctg gaggtctctt aggattggaa aagttcaaga aacccgaggg 60
 aagctgggac tgtgaattgt gcctagtgcg gaataaggca gactctacca aatgtttggc 120
 atgtgaaagt gcaaagccag gcacaaaatc tgggtttaaa ggctttgaca catcttcctc 180
 atcttcgaac tcagcagcct cctcatcctt caaatttggg gtctcatcat cctcttctgg 240
 gccttctcag actttaacaa gcactggaaa ttttaaattt ggagatcagg gaggattcaa 300
 aatagggtgtg tcactctgatt ctgggtctat aaaccccatg agtgaaggct ttaaattttc 360
 taaaccaata ggagatttta aatttggagt ttcatctgaa tctaagcccg aagaagttaa 420
 aaaagatagt aagaatgata atttttaagt ttggacttct ttggtttaac caccagttt 480
 ctttaacttc atttcaattg gggtatctaa tcttggacag gaagaaaaag aaagangaac 540
 ctggcccaaa tctttcctnt gcaggnttta nccttnggac ccttggccgc naaccacct 600
 aaggggggaa ttcennacac tgggg 625

<210> 508
 <211> 612
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(612)
 <223> n = A,T,C or G

<400> 508
 ggtcgaagac agaggttcag gtcgttccag gggtagagga ggcataagga atgaccgtcg 60

ggacagatac	tctgcgggca	aaaggggtgg	atttaataacc	tttagagaca	gggaaaatta	120
tgacagaggt	tactctagcc	tgcttaaaaag	agatttttggg	gcaaaaactc	agaatggtgt	180
ttacagtgtc	gcaaattaca	ccaatgggag	ctttggaagt	aattttgtgt	ctgctggtat	240
acagaccagt	tttaggactg	gtaatccaac	agggacttac	cagaatgggt	atgatagcac	300
tcagcaatac	ggaagtaatg	ttccaaatat	gcacaatggg	atgaaccaac	aggcatatgc	360
atatcctgct	actgcagctg	cacctatgat	tggttatcca	atgccaacag	gatattccca	420
ataagacttt	agaaagtatat	gtaaatgnct	ggttttcata	attgctcttt	atattggng	480
gtatctgacc	agatagtatt	ttaagaaaca	tgggaattgc	anaaatgact	gnagtgcaan	540
agtaattntn	gggcactttt	cgtttttaag	ntggaaattc	nctacanttc	ctgaaccant	600
ttanggtttt	tt					612

<210> 509

<211> 473

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(473)

<223> n = A,T,C or G

<400> 509

cttgggtctg	aaagtcgatg	aaggacgcga	ttacctgcga	taagcttcgt	ggagttggaa	60
ataaactatg	atacggagat	ttccgaatgg	ggtaacctaa	ctgagcaaac	ctcagttgca	120
ttttgatgaa	tccatagtcg	aattagcgag	acacggttgcg	aattgaaaca	tcttagtagc	180
aacaggaaaa	gaaaataaat	aatgatttcg	tcagtagtgg	cgagcgaaag	cgaaagagcc	240
caaacctgta	aaaaggggtt	gtaggacatc	ttacattgag	ttacaaaatt	ttatgatagt	300
agaagaagtt	ggaaagcttc	aacatagaag	gtgatattcc	tgtatacgaa	atcataaaat	360
ctnatagatg	tatcctgagt	agggcggggc	accgtgaaac	cctgtctgaa	tctgccggga	420
ccaccccggt	aaggctaata	ctaatanac	accgatagtg	aactagtacc	tng	473

<210> 510

<211> 632

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(632)

<223> n = A,T,C or G

<400> 510

ggtacctatg	tggaattccaa	gagcctgata	gcattcttgt	ccttcagagc	ctccctggca	60
aacaattacc	atcacacaaa	gccatacttt	ttgtgcctcg	gcgagatccc	agtcgagaac	120
tttgggatgg	tccgcgatct	ggcactgatg	gagcaatagc	tctaactgga	gtagacgaag	180
cctatacgct	agaagaattt	caacatcttc	taccaaaaaat	gaaagctgag	acgaacatgg	240
tttggtatga	ctggatgagg	ccctcacatg	cacagcttca	ctctgactat	atgcagcccc	300
tgactgaggc	caaagccaag	agcaagaaca	aggttcgggg	tgttcagcag	ctgatacagc	360
gcctccggct	gatcaagtct	cctgcagaaa	ttgaacgaat	gcagattgct	gggaagctga	420
catcacaggc	tttcatagaa	accatgttna	ccagtaaaaag	cccctgtgga	agaaccnttc	480
tttatgctaa	gtttgaattt	gaatgcccg	ctcgtggcgc	agacatttta	acctattcan	540
cttggtggtg	cttgngngta	attcggncca	aacactttgc	ncttttgtga	aaaaaaatcn	600
cctcttcang	gttggggnaa	nggggctttt	gg			632

<210> 511
 <211> 616
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(616)
 <223> n = A,T,C or G

<400> 511
 acagaaccta aaggtttcac tgaatgcgaa atgacgaaat ctagcccttt gaaaataaca 60
 ttgttttttag aagaggacaa atccttaaaa gtaacatcag acccaaaggt tgagcagaaa 120
 attgaagtga tacgtgaaat tgagatgagt gtggatgatg atgatatcaa tagttcgaaa 180
 gtaattaatg acctcttcag tgatgtccta gaggaaggtg aactagatat ggagaagagc 240
 caagaggaga tggatcaagc attagcagaa agcagcgaag aacaggaaga tgcactgaat 300
 atctcctcaa tgtctttact tgcaccattg gcacaaacag ttggtgtggt aagtccagag 360
 agtttagtgt ccacacctag actggaattg aaagacacca gcagaagtga tgaaagtcca 420
 aaaccaggaa aattccaaag aactcgtgtc cctcgagctg aatctggtga tagcccttgg 480
 ttctgaagat cgtgacttct ttacagcatt gatgcatata gatctcaaag attnanagaa 540
 acnggaatgt ccatcaataa acnaggtgat tgttnggaag gaagatgttc tttttaaaaa 600
 tnaatgttn atntng 616

<210> 512
 <211> 619
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(619)
 <223> n = A,T,C or G

<400> 512
 ggtaccggtc tttctcaa atcatcagca ccctcaatcc cactgctaaa cgacatttgg 60
 tcctcgctg ccactatgac tccaagtatt tttcccactg gaacaacaga gtgtttgtag 120
 gagccactga ttcagccgtg ccatgtgcaa tgatgttgga acttgctcgt gccttagaca 180
 agaaactcct ttccttaaag actgtttcag actccaagcc agatttgtca ctccagctga 240
 tcttctttga tgggtgaagag gcttttcttc actggtctcc tcaagattct ctctatgggt 300
 ctcgacactt agctgcaaag atggcatcga ccccgacccc acctggagcg agaggacca 360
 gccaaactgca tggcatggat ttattggtct tattggattt gattggagct ccaaaccxaa 420
 cgtttcccaa tttttttcca aactcagcca ggtggttcga aagacttcaa gcaattgaac 480
 atgaacttca tgaattgggt tgcttcaagg atcactcttt tggaagggcg ggatttnccg 540
 aaatacnggt tttggaggng tgaatcaggg atgaccntat tcccttttta anaaaaaggg 600
 gttcccntnt gcntntggn 619

<210> 513
 <211> 175
 <212> DNA
 <213> Homo sapiens

<400> 513

ggtacatcct	cggccgggag	tccccactgt	ctctctacaa	tgaggagctg	gtgagcatga	60
acgtgcaggg	tgattatgag	ccaactgatg	ccaccgggtt	catcaacatc	aattccctca	120
ggctgaagga	atatcatcgt	ctccagagca	aggtcactgc	caaatagacc	cgtgt	175

<210> 514
 <211> 597
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(597)
 <223> n = A,T,C or G

<400> 514						
actagttact	gcatctgatt	ttacagacag	agaagagtca	aggcccagag	agcagacagc	60
tcaccccaac	atcacacagc	agtcagctgc	gaggggcttg	gtgctactca	gatttctcct	120
aagaatgttt	ggaaacaacc	tgaggagag	ttaagtaata	aaggaaaatc	acaaacagag	180
acagagaccc	agaaagggac	tcacgggaat	aaaagcagaa	agtgcacagag	atacatagag	240
atgatgagac	agagacagag	agatcagaga	tagggttcag	aaaaaaagaa	gagagaggct	300
gggcacagtt	gctcacgcca	gtaatcccag	cactttgaga	ggcggagatg	ggaggatctc	360
ttgagccag	gagtttgaga	ccagcctgga	cagcatagta	agaccccatc	tttattttaa	420
aaaaagtttt	attaatttaa	aaaaaatgcc	nagagagata	acccccnta	gaagggttga	480
aagccaaaag	ctttttgggg	gcttaaaagn	accccaaccc	ggncnnggga	ganagggttt	540
tttttgaggg	aanaatccgg	ttcttgacca	ngcttaanng	gcctattttc	aaaaaac	597

<210> 515
 <211> 574
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(574)
 <223> n = A,T,C or G

<400> 515						
ggtacactgg	ttgatatgaa	gattgaatth	ggtgttgatg	taaccaccaa	agaaattggt	60
cttgctgatg	ttattgacaa	tgattcctgg	agactctggc	catcaggaga	tcgaagccaa	120
cagaaagaca	aacagtctta	tcgggacctc	aaagaagtaa	ctcctgaagg	gctccaaatg	180
gtaaagaaaa	actttgagtg	ggttgcagag	agagtagagt	tgcttttgaa	atcagaaagt	240
cagtgcaggg	ttgtagtgtt	gatgggctct	acttctgac	ttggtcactg	tgaaaaaatc	300
aagaaggcct	gtggaaatth	tggcattcca	tgtgaacttc	gagtaacatc	tgcgcataaa	360
ggaccagatg	aaactctgag	gattaaagct	gagtatgaag	gggatggcat	tcctactgta	420
tttgtggcag	tggcaggcag	aagtaatgg	tngggaccag	tgatgtctgg	gaacactgca	480
tatnccgtta	tnagctggcn	tcncttanac	caactgggga	agttcaggat	gtgtgggctt	540
ctctttgact	nccaatggnc	ttggctntca	accn			574

<210> 516
 <211> 450
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(450)
 <223> n = A,T,C or G

<400> 516
 aaaaaggcgt aaagcggaaa gcagatacta ccacccttac acctacagcc atcttggtct 60
 ctgggtctcc agctagccct cctgggagtc ttgagcctaa ggcagcacgg cttcccccta 120
 tgcgtagaga gagtggctgc cccatcaagc cccacgcaa agacttgctt gactctcagc 180
 aacaacacca gagctctaag aaaggaaaagc tttcagaaca gttaaaacat tgcaatggca 240
 ttttgaagga gttactctct aagaagcatg ctgcctatgc ttggcctttc tataaaccag 300
 tggatgcttc tgcacttggc ctgcatgact accatgacat cattaagcac cccatggacc 360
 tcagcactgt caagcgggaag atggagaacc gtgattaccg ggatgcacag gagtttgctg 420
 ctgatgtacc tcgggcgca acacgcttan 450

<210> 517
 <211> 611
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(611)
 <223> n = A,T,C or G

<400> 517
 actcctctga ggactacatt aagtcaggag ctcttcttgc ctgtggcata gtgaactctg 60
 ggggtccgaa tgagtgtgac cctgctctgg cactgctctc agactatgtt ctccacaaca 120
 gcaacacccat gagacttggg tccatctttg ggctaggctt ggcttatgct ggctcaaata 180
 gtgaagatgt cctaacactg ctgctgcctg tgatgggaga ttcaaagtc agcatggagg 240
 tggcaggtgt cacagcttta gcctgtggaa tgatagcagt agggctcctg aatggagatg 300
 taacttccac tatccttcag accatcatgg agaagtcaga gactgagctc aaggatactt 360
 atgctcgttg gcttctctct ggactgggtc tcaaccacct ggggaagggt gaggccatcg 420
 angcaatcct ggctgcactg gaaggtgngc anaaccnttt cgcanttttg nccacacacc 480
 tggnggatgt gtnggcctat tcncgctttt ggnanatgcc tnaagggcna caaattgggtc 540
 caatttgnnn nnaacctttg cctccaaaga aagggggaaa naaaagtttc ccccnannng 600
 gggcgggccc c 611

<210> 518
 <211> 395
 <212> DNA
 <213> Homo sapiens

<400> 518
 ggtgatttat ctaatcagaa ctcttcagat caggcaaatg aagaatggga aacagcttct 60
 gaaagcagtg atttcaatga gaggcgagag agggatgaaa aaaaaaatgc tgacttgaat 120
 gcacaaacag ttgtaaagg tggagagaat gttctacctc caaagaggga aattgcaaag 180
 agaagttttt ctagtcagag accagtagat cgtcagaatc gacgtggcaa caatgggtcca 240
 cccaaatcag gaaggaattt ctcaggctct agaaatgaaa ggagaagtgg cccaccatca 300
 aaaagtggga agagagggcc atttgatgac cagcctgcag gcacaactgg ggttgacctc 360
 atcaatggca gctctgcaca ccatcaggaa ggagt 395

<210> 519

<211> 626
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(626)
 <223> n = A,T,C or G

<400> 519

ggtaccgaaa	gcacagtaat	cactgggtgtc	gatattgtca	tgaaccatca	cctgcaggaa	60
acaagtttca	caaaagaagc	ctacaagaag	tactgatttt	aaaaactaat	aacttaaaac	120
tgccacacgc	aaaaaagaaa	accaaagtgg	tccacaaaac	attctccttt	ccttctgaag	180
gtttttacgat	gcattgttat	cattaaccag	tcttttacta	ctaaacttaa	atggccaatt	240
gaaacaaaca	gttctgagac	cgttcttcca	ccactgatta	agagtggggg	ggcaggtatt	300
agggataata	ttcatttagc	cttctgagct	ttctgggcag	acttgggtgac	cttgccagct	360
ccagcagcct	tcttgccact	gctttgatga	cacccaccgc	aactgtctgn	ctcatatcac	420
gaacagcaaa	gcgacccaaa	ngtggatagt	ctgagaagct	nttcaacaca	catnggcttt	480
gccaggaanc	ntttntacca	tgggagcmtt	cccngacttt	tagnaaatta	agggcmtttt	540
tcacttttta	acccaaacgg	ggaaaaatth	ttncitttaag	ttaanaaact	tgcnnitgcaa	600
tggaanccgn	ngggaatcca	atacgg				626

<210> 520
 <211> 322
 <212> DNA
 <213> Homo sapiens

<400> 520

ggtacccaag	catctagtct	ggaactgaca	gagataaata	gagaaaatgt	tccaaagtct	60
ggcacgcccc	agcttaggct	gccattcgct	gcaagggtga	acacccccat	gggcccctgga	120
cgaactgtcg	tcgttaaagg	agaagtgaat	gcaaagtcca	aaagctttta	tgttgacctta	180
ctagcaggaa	aatcaaagga	tattgctcta	cacttgaacc	cacgcctgaa	tattaaagca	240
tttgtaagaa	attcttttct	tcaggagtcc	tgggggagaag	aagagagaaa	tattacctct	300
ttcccattta	gtcctgggat	gt				322

<210> 521
 <211> 613
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(613)
 <223> n = A,T,C or G

<400> 521

ggtaccatcc	tcatctcggt	gggatgtgca	gttttctgtg	cccttatcgt	ctgggtcttt	60
gtatgtccca	ggatgaagag	aaaaattgaa	cgagaaataa	agtgtagtcc	ttctgaaagc	120
cccttaattg	aaaaaaagaa	tagcttgaaa	gaagaccatg	aagaaacaaa	gttgtctgtt	180
ggtgatattg	aaaacaagca	tcctgtttct	gaggtagggc	ctgccactgt	gcccctccag	240
gctgtgggtg	aggagagaac	agtctcattc	aaacttggag	atttggagga	agctccagag	300
agagagaggc	ttcccagcgt	ggacttgaaa	gaggaaacca	gcatagatag	caccgtgaat	360
ggtgcagtgc	agttgcctaa	tgggaacctt	gtccagttca	gtcaaagccg	tcagcaacca	420

aataaaactnc	agtggccact	accagtatca	caccgtgcat	aaaggattcc	gggctgtanc	480
ttgccccgcc	ggcgtntaa	aggcgaattc	cagncaactg	ggggccgntc	taaagggatn	540
ccactttggn	ccaacnttgg	gggaatctng	ggcaaantng	tcctgngna	aatggtatcc	600
gtcaaatncc	enn					613

<210> 522
 <211> 319
 <212> DNA
 <213> Homo sapiens

<400> 522						
accagggagg	catgacattg	cttttgttga	atttgaaaat	gatgggcagg	ctggagctgc	60
cagggatgct	ttacagggat	ttaagatcac	accgtcccat	gctatgaaga	tcacctatgc	120
caagaaataa	catttgggat	agtcgtcttt	aaaagacttg	gtgttattta	cagtgtttgt	180
tttgataaca	tttggctggg	tcattttaat	agttagagat	gaggaggagt	aaaagtgaaa	240
tttttgtgaa	ggacttaaat	tatccagtgt	ttcttttagcc	ttggtgaact	atgaaatacg	300
aaggccttaa	ttttgtacc					319

<210> 523
 <211> 589
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(589)
 <223> n = A,T,C or G

<400> 523						
acagcgcgcg	gctctacacg	cttgggtagc	gggataagtc	actgttttct	ttattttcttt	60
aaaaaaaaaa	aagttctgtt	gcaaacgact	gctgttggat	tctgaggggtg	gggagggaga	120
gagagggagg	gagagggagt	gaagagcctg	ccctcctata	tggattcttc	agggccctcc	180
acatctgagg	tggctcattc	ccatcacaca	cagattgtcc	tgggtgttcat	ttcaaggcca	240
gtgttcagca	gcagcgtttg	gaaagcaggt	tctgtgggac	cccccgcccc	gccccacac	300
tccttcatag	cagcagtagt	ggcttctcca	tcctgnttcc	tgcaacattc	tatacaaaac	360
tgtgctgtga	ccttgccgta	agcctggatc	tggcaaagag	aatcaaatga	aacccttct	420
ttctcttttc	gtccacaact	ctgtanaact	ntntgnaccc	ttaccctttt	ccaccttttg	480
gattnaattt	taaggccgtg	nanctttggc	cggaacaccc	ttagggcnaa	ttcnnnccat	540
tgggggcccgt	ctaagggann	ccaattggnc	caanttgggn	aacanggnn		589

<210> 524
 <211> 621
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(621)
 <223> n = A,T,C or G

<400> 524						
ggtacattgg	agagatctcg	cctactgccc	tgcgggggtgc	ctttggcact	ctcaaccage	60
tgggcatcgt	tgttggaatt	ctggtggccc	agatcttttg	tctggaattc	atccttgggt	120

ctgaagagct	atggccgctg	ctactgggtt	ttaccatcct	tcctgctatc	ctacaaagtg	180
cagcccttcc	attttgccct	gaaagtccca	gattttttgct	cattaacaga	aaagaagagg	240
agaatgctaa	gcagatcctc	cagcggttgt	ggggcaccca	ggatgtatcc	caagacatcc	300
aggagatgaa	agatgagagt	gcaaggatgt	cacaagaaaa	gcaagtcacc	gtgctagagc	360
tcttttagagt	gtcagctacc	cgacagtcca	tcatcatttc	cattgtgctc	cagctctntc	420
gcagcttctt	gggatcaatg	ctgngttcta	atactcacca	ggaatcttca	aggatgcagg	480
tgggttaaaaa	nccccatttat	gccncctttg	ggcccgggtgn	gggtnaaacc	anacttncn	540
nggaggnncc	tnttttnnng	ggggaanggc	cngaaaaaag	gncttcgcct	ttaaanngcc	600
cttgaggga	agnttttttt	n				621

<210> 525

<211> 384

<212> DNA

<213> Homo sapiens

<400> 525

acagcacttt	gagaggacat	cactagacaa	gtaatacaca	catggcctgc	aggaggtcaa	60
gggcggcgag	ggggctgggc	aggggacatt	tttgtgactt	ccactgttat	tatatttcac	120
gacaacagca	gcagcacaaa	tggtgtgctc	accactggag	aatgagagct	gctgagctct	180
gaggatggcg	agacagcctt	cctgcatttg	ctgctttagt	ttctgcttta	gagctaagtt	240
ttatacagag	aataaaatga	ccatcttctc	ttacaaacac	gatgatgtat	gacccacac	300
aacacaaggt	attatgaagt	atctgaaact	gaggataatc	tgactgaaga	tgcttgccga	360
gagggtacct	cggccgcgcc	acgc				384

<210> 526

<211> 621

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(621)

<223> n = A,T,C or G

<400> 526

actgtagctc	cccctagat	gtgatgagta	tgccttcacc	cttgggtgtca	tactggggtc	60
ttccggcacg	tcccagcatc	tgcagaatgt	ccagtgtctc	cagttctgtc	caacgcccct	120
tctctggact	gtacaatgtc	actgacggat	cctgccagct	gtttgtgtat	gggggctgtg	180
acggaaacag	caataattac	ctgaccaagg	aggagtgcct	caagaaatgt	gccactgtca	240
cagagaatgn	canggggtgac	ctggccacna	gcangaatgc	agcggattcc	tctgcccacg	300
tgcttnagaa	ggcagnattc	tgaagactac	tncagcgata	tgttcaacta	tgangaatac	360
tgcacngtna	accgcattna	ctgggnnttg	ncngtgcac	cttcnacgct	ggtaccttcg	420
gcccggggacc	acgcttaagg	gcgaatncan	gnactactgg	ccgggtcggt	actantngaa	480
tccgagnttc	gnnaccaagc	tttgcgtaaa	atattgggca	taagttggnt	ttctgngnga	540
aaaatggtan	atcngtttnan	aattcccnaa	tatatncanc	cngtnccttt	aattntaaat	600
ccgggggtnn	taantnantn	n				621

<210> 527

<211> 611

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(611)
 <223> n = A,T,C or G

<400> 527

acagctcacc	cacttcctca	tctgtaaacc	gatcccccat	ggttgtcagc	agctctctta	60
ggtaatcttc	ctgaatggtg	cctggtgctt	cttcatcaaa	gcaagcaaag	gcgtttctga	120
tgacatcttc	aggatctgtg	ccatttaact	tctcaccaaa	catggtcagg	aacatggtga	180
aattgatggg	ccctggggcc	tcattcatca	tggcatcaag	gtatgcatca	gtgggattct	240
tccctagaga	agcaagcata	tcattgcaa	cttccttgct	gatgaagcca	tctctgttct	300
gatcaatcat	ggtgaaggcc	tctttgaact	cctgaatctg	tgattggtca	aacatggcaa	360
acacattgga	tggtgcacgc	tgagggcgct	tcttggtggt	cttggctctt	gcctttttgc	420
ttcgacatgg	tggntgggtta	attncgacgc	ccaaacacca	gaaccggggg	ccancctgcg	480
cganaacgca	acaaaaacct	tnggccggaa	cacccttaag	gggaaatccc	nncactgggg	540
ggccgtataa	ngggancna	nttnggacca	aacttggnng	aaaaangggc	aaaanngttc	600
ctngngaaan	n					611

<210> 528

<211> 593

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(593)

<223> n = A,T,C or G

<400> 528

acaagctttt	tttttttttt	tttttttttt	taggtagtgg	gtggtgagct	tgaacgcttt	60
cttaattggt	ggctgctttt	aggcctacta	tgggtgttaa	atthttttact	ctctctacaa	120
ggttttttcc	tagtgtccaa	agagctgttc	ctctttggac	taacagttaa	atthacaagg	180
ggatttttag	ggttctgtgg	gcaaatttaa	agttgaacta	agattctatc	ttggacaacc	240
agctatcacc	aggctcggtg	ggtttgtcgc	ctctacctat	aaatcttccc	actattttgc	300
tacatagacg	ggtgtgctct	tttagctgnt	cttaggtagc	tcgtctggtt	tcgggggtct	360
tanccttggc	tctccttgca	aaggtatttc	tagntaattc	attatgcnnn	aagnatangg	420
gtaagccctg	ctatataagc	ctgggtataa	atthttcanc	tttcctttgn	ggaccctnng	480
ccggaacacc	ctaagggcga	aatccancca	ctggggggcc	tactaaaggg	atcccaactt	540
gggnccaact	tggnnnaaac	cggggcnaaa	nngtccctgg	ggnaaatggn	anc	593

<210> 529

<211> 251

<212> DNA

<213> Homo sapiens

<400> 529

accattggtg	gccaattgat	ttgatggtaa	gggagggatc	ggtgacctcg	tctgttatgt	60
aaaggatgcg	tagggatggg	agggcgatga	ggactaggat	gatggcgggc	aggatagttc	120
agacggtttc	tatttcctga	gcgtctgaga	tgtagtatt	agttagtttt	gttgtgagtg	180
ttaggaaaag	ggcatacagg	actaggaagc	agataaggaa	aatgattatg	agggcgtgat	240
catgaaagac	c					251

<210> 530

<211> 601

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(601)
<223> n = A,T,C or G

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<400> 530
acagtataaa atgttttccat aggaacacaa aagaaactgt cactagtggc ctgctgtcag      60
atggcttcta attcatcagt tagccatttt taggacacta gtccagctta ttgctacaat      120
cttcaagttg ttctagtcac ccaaattata atgaattcaa tgtataccag aatttaccaa      180
taaaggctca aagagttata taatatacac caatatacac aaaacagcta ttctgagtaa      240
aatgaatatt ccatacttaa ataagaacca agaatagtaa ttttaggcta ctctattatc      300
cttgtgattg gtattttttaa aattttgagc aaagtgcaca gtgaatgaaa cagtcagcag      360
acacgatcct tctgtgaact ctcaaattcc tgccttagaa tcacgtcacc tgagaaatga      420
gaacctttga gacctgggtg atatcaaata gcttcacatg tcaaaccaca ggggccgctt      480
ggangccatt ctngggcaca ggangncaac tggttcnttn aaaatggnnn ccttnccctg      540
gcangggccc tgtgttaaag gccccaaaac cggcctcnng ggaaacaagg ttgntaatta      600
a

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<210> 531
<211> 607
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(607)
<223> n = A,T,C or G

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<400> 531
ggtacaagct tttttttttt tttttttttt ttttttttct cagccttgga tttctttctta      60
gcttccttct gctttaagct cttgggtctct tgtttccgct natttctggc ctgcccttgg      120
atagtagtct gacactctcc ccgttgaacc ttctgcctca tcttcttctt gcttttagca      180
atctttgctt tctctcctc attcaatggt tcttgggcct ccagtttctt tagggggcgg      240
ttgtctgtct tgttcaatag ctacgtgatt ttgaccttag gtggccgacc tcgaccccg      300
ttcaccttgg ggacttcctt agtcttagcc ttctcagtgt ttcaagggtcg accccgtttg      360
ccagtaattg cctgaatcct cgacgggatc tcctctgctg aaagctgcac ccactgcaag      420
ccctttggcg ngnctctttt cttcaaagaa atctccaaca nggcatacgg ggactgaanc      480
ttaanngctt nttggnggaa actgggnacc tggccgggca ngggcctntg ttttacctnc      540
tggnaatnaa aaggggaaat ncaaaanttt accctnttna ccnngtttnt ggggtngggg      600
gaaaang

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<210> 532
<211> 608
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(608)
<223> n = A,T,C or G

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<400> 532
gggtactgaac aggttaagtca tccctcagcc agagattagt ctacttcttc catgcgtgat      60
gtgtcgatcat ctccctcaag ggggtggcatt tcttcagtta cagcagcact ggtatcatca      120
gcagtaggggt catcttcac aataccaga ccaagtttga tcatcctgta gatcctgtta      180
gcatgtgtct ggggatcttc cagactgaag ccagaagaca ggagcgcagt ttcataaagc      240
aagatgacca gatccttcac agacttgctg ttcttatcag cctctgcctt ttgccttaag      300
gtctcaataa tggaatggtc aggggtttatc tccaggtgtt tctttgctgc catgtaaccc      360
attgttgagt ngctcttagg gcttgagctt tcatgattcg ctccatgttt gctgtccagc      420
catatgtgct tngacaaatc agcatggaaa ntcaccaatc cggttgacac aaccacnttt      480
cactttttct ccaaanngcc tttcatgant ttcnnanggt ntcaaacttt ggggttttcnc      540
ntnccgggtc ntttcncntt ttaaaccctt nggaattccn gccttttttg ggacnnacnn      600
taagnttt
608

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<210> 533
<211> 593
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(593)
<223> n = A,T,C or G

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<400> 533
acacatttgc tgatggcttc tcaaaacctg agccgagaat aggggtctgat agcccagcca      60
agttttaaag cagacacaca cgaatgtagt atcgttggtc ctgaaatgac cattctgggt      120
tgtttagaat ccagaatcat caaaagccat gtggtatgag gaagtaataa atatcctctt      180
gaatcttctt accctatttt gcacaaatgg atggctgcat gaacagctct tgtaaattgc      240
tctgagtgca caccaataga aacctgcact cattctatag ctacagaggg tttggtggct      300
taaggggact ttatcatctc agcattaatt tcccttttaa agctattctc aagggtggac      360
tgtctcagag ataaacaaag aggaatcctt ttggcttaga agccaactgg cttactcaga      420
cttctcctt tctactcca attcccacac taccatanta tcntcttgac tagaaaatca      480
attatttacc tgacataagg gcaagtctat tctttttcca nnccttgccc tnggggcctt      540
ggnaanaaaa atcctntgcct ttttgggaana agttttggga cnngcttagg ttt
593

```

```

<210> 534
<211> 608
<212> DNA
<213> Homo sapiens

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```

<220>
<221> misc_feature
<222> (1)...(608)
<223> n = A,T,C or G

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```

<400> 534
ggtacacttc tgtttatatt taaacaacaa agaaaaaagc atctacacac ttaaaaaatt      60
aattcaatat tcctaaatct attttaactc attttaaaat actacataca gaagccagaa      120
tgcagggtta agaatggaat aagggtggga gaagaagggg accacgaaga aaaacactta      180
gacaattact tgtctgttgt gggtaaagca acaggaatcc tgggagatac aagaaatcag      240
taacaacttt gctcataact gatattttcc cctcatgttt gtttttaata acgtccatat      300
gggtgctctc tgtatgctcc cttcactggc ctagcaggag gggccttnag cgacggcctg      360

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gtcccatgcc	agtcgcct	ggccataagc	ttcataagaa	tcttgaacct	ncccatgtcc	420
atagtcataa	tattctgagt	ccccttgact	ctggctgnaa	ataancctcg	tagccttnga	480
actttggtct	gcgnatgnat	natcatatnc	ctaatactca	naagntntn	gngcccgaag	540
ttggnggcaa	gggttctttn	ggaanccct	tncngcctt	tggggnctgg	acnncctnan	600
agnggggg						608

<210> 535
 <211> 603
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(603)
 <223> n = A,T,C or G

<400> 535						
acaaagtgc	ccctcgctcc	tgccaccggt	ttgagcaagc	gttctacacc	tatgacacgt	60
cttcacctag	tatcttgaca	ttgacagcca	ttcgccacca	tgtccttgga	actatcacca	120
ccgacaaaat	gatggatgic	actgtgacta	tcaagtcttc	catcgacagt	gaaccgcgct	180
tggtcttagg	ccctctgaag	tctgtgcagg	agctgcggag	ggagcagcag	ctggctgaga	240
tgcaggcccg	caggcaggag	agggagaaaa	acggcaatga	ggaagggtgaa	gaaagaatga	300
ccaagcctcc	cgtgcaggag	atggtagatg	agttacaagg	ccccttctcg	tatgatttct	360
cttactgggc	gcnggnctgg	agagaaaatt	actgnttcac	ngtcatctna	agaactgctc	420
ttttatcccc	ctttcaatgg	aaagcncggt	gntcangtgg	gaagaaagct	tgcncagggg	480
aaanttggt	tgcagatncn	ccgggaaaaag	gccaggcctg	gtttttaaaa	agggcccnaa	540
tcccccccg	nanttgnaaa	gggaatccna	aattggtctt	ccntnngaaa	aggggncaag	600
ttn						603

<210> 536
 <211> 581
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(581)
 <223> n = A,T,C or G

<400> 536						
ggtactcctg	ggaggctttt	gacagccacg	ggcaggagag	cagcggccag	cttcccagg	60
agctctttct	gctgctccag	tctttggtca	tggctaccca	cgaaaaggac	acggaagcca	120
tcaagtcgct	gcagggtggag	atgtggccac	tggtgactgc	tgagcagaac	cacctccttc	180
acctcgttct	acaagaaacc	atctccccct	caggacaggg	agtctgatcc	atcccattca	240
cccagtgact	tctttttgce	caggcctgga	ctttttgcat	cagtcacggt	aaccagatga	300
ctttgcctgt	taccaaacct	catgcatcca	cgtttgcgct	tggggaggaa	taaaaagaca	360
tcgttcccgc	ttctgcgttt	tgntattcct	actgccgcca	taggaattat	ttcgtggctg	420
aacgttaccc	agcanccga	gaacactttt	ggatagaatt	ngagttgagg	acattggctg	480
gcttttaaaa	ancccnctt	ggaaatngna	atncctttcg	ntcctttctc	cggngggtcc	540
ncctnanggn	anttttggtt	cgctttgntn	caaagngagg	g		581

<210> 537
 <211> 568

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(568)
<223> n = A,T,C or G

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<400> 537
ggtacgggact actccctca catgcgtcct acctgtgaaa ctctgggaag caggaaggcc      60
caagacctgg tgctggatac tatgtgtctg tccactgacg actgtcaagg cctcatttgc      120
agaggccacc ggagctaggg cactagcctg actttttaagg cagtgtgtct ttctgagcac      180
tgtagaccaa gcccttgag ctgctgggtt agccttgacac ctggggaaaag gatgtattta      240
tttgattttt catatatcag ccaaaaagctg aatggaaaag ttaagaacat tcctagggtg      300
ccttattcta ataagtttct tctgtctgtt ttgtttttca attgaaaagt aattaaaata      360
cagatttaga atctagttag agcctcctct ctggtgggtg gtggcattta agggcacaac      420
cancnanaaa tgcttggtgc tggttnaaaa agctcangtg gctgctgtgg tggctnatgc      480
ctgnaatcca acattntggg aaggccaagc cggaaaactg ttgngccnng anttaaaata      540
anctgggcac ntacaanntt cgttttnna                                     568

```

<210> 538
<211> 598
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(598)
<223> n = A,T,C or G

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<400> 538
ggtttttttt ttttttngtt catgtctttt attaaactcat acagttactt gtctttctggt      60
ttgttgaaac agtaagtcag acaacntttg ccacaataat gtctgtcaaa gtgacttgcc      120
ataaanaccc cancaccaca ttcatacataa gggcactctt gacgaaggcg actaattttg      180
ccattctatt tcaggacagc cagctaaacc ttctntctct tgtgcttatt cttcttgagg      240
gtggtgtaag acttcttctt ctttttctta gcaccaccac gaagtcttaa cacatgatga      300
agantagact ccttttgaat attgtagtctn gacaagagtn catacatcat accaacttnn      360
tanatacaca gctcagttaa ttagcttgat ggcacagtta tngttnggaa nagagangag      420
tgcancatan gnangagtga ngngnggatt cccacaattt tctnagaach gaanagtagg      480
nngaattagt aggtactgga aatgaaatnn ggcttagcct gnctggntta gaaanaagaa      540
ttcnaagccc tttgtcaana nttntcaaaa agtnacttta ngcctatntt gcgggnag      598

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<210> 539
<211> 607
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(607)
<223> n = A,T,C or G

<400> 539

ggtacaggct	ttaacagaaa	ttcaggagtt	catcagcttt	ataagcaaac	aaggcaattt	60
atcatctcaa	gttcccccta	agagacttct	gaacacctgg	acaaacagat	atccagatgc	120
taaaatggac	ccaatgaaca	tctgggatga	catcatcaca	aatcgatgtt	tctttctcag	180
caaaatagag	gagaagctta	cccctcttcc	agaagataat	agtatgaatg	tggatcaaga	240
tggagacccc	agtgacagga	tggaagtgca	agagcaggaa	gaagatatca	gctccctgat	300
caggagttgc	aagttttcca	tgaaaatgaa	gatgatngac	agtgcccgga	agcagaacaa	360
tttctcactt	gctatgaaaa	ctactgaagg	agcttgcata	aagagtcaaa	aaaccagaga	420
cgaattgggt	ggtagctggg	ggtgccaaac	tactggcgnc	tggagcccct	taccggggag	480
cccgggnccc	anggnattgg	cttganncag	gggcttcaat	tggccttgaa	aacnagtctt	540
ttttggttgg	attagnaacn	cacngtgtca	agctncttta	agccaaaaat	tntccnggnt	600
tttnccg						607

<210> 540

<211> 432

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(432)

<223> n = A,T,C or G

<400> 540

ggtactgac	attctatttc	cccctctatt	gatccccacc	tccaaatata	tcatcaacaa	60
ccgactaatc	accacccaac	aatgactaat	caaactaacc	tcaaaaacaa	tgataaccat	120
acacaacact	aaaggacgaa	cctgatctct	catactagta	tccttaatca	tttttattgc	180
cacaactaac	ctcctcggac	tcctgcctca	ctcatttaca	ccaaccaccc	aactatctat	240
aaacctagcc	atggccatcc	ccttatgagc	gggcgcagtg	attataggct	ttcgctctaa	300
gattaaaaat	gccctagccc	acttcttacc	acaaggcaca	cctacacccc	ttatccccat	360
actagttatt	atcgaaacca	tcagcctact	cattcaacca	atagccctgg	ccgncctcgg	420
ncgtgaccac	gc					432

<210> 541

<211> 597

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(597)

<223> n = A,T,C or G

<400> 541

gggtaccggc	gtgtcaaaaa	aatgtcagat	gacgaggacg	atgacgagga	ggaatatggc	60
aaggagggaac	atgaaaaaga	agctattgcg	gaagaaatct	tccaggatgg	ggaaggggaa	120
gaaggggcagg	aggccatgga	ggcccccatg	gctcctccag	aggaggagga	agaagatgat	180
gaggagtacg	atattgacga	cttcattgtg	gatgatgatg	gacagcctct	gaaaaaacct	240
aagtggcgga	aaaagcttcc	tggatacaca	gacgcggccc	tgcaagaagc	ccaggaaatc	300
ttcgggtgtg	actttgacta	tgatgaattt	gagaaataca	atgagtatga	tgaagaactg	360
gaggaagagt	atgagtatga	ggatgatgan	gctgatgggt	aaatccgatg	cccccccaga	420
agaccaccca	gaaacngtgt	tgagcccntn	ggagcncntt	ttgaaatggg	ttganncenn	480
gtngggcttt	naaagcennc	nccttacnna	ttnggggcct	tngantcccn	gcccttneet	540
gccttnaaag	ggtccanntt	ccgttncttc	ccagtcangg	ggnttaaaaa	tnatnan	597

<210> 542
 <211> 577
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n = A,T,C or G

<400> 542
 gcccaaggct cagccagctct ctatttaaga aaatttaaca aatacgagta accctgtccc 60
 aatcactgaa tctctagtta ctactcttag aaacacctgt ggcttcttgg ccctcctgtt 120
 gcccgctctg aatctctctg cagtctacaa aatcgcccca gtcaactctc cacttgaggg 180
 gaattgtcca gtgtggcccc tagaattgag tcacccccta gataccaact gtctgacccc 240
 gaggagctct gtaagtcctt gctcctcctc ttcccttttg ggctgggtgct gccactcagc 300
 aataatcctc ttttctctgt gctttcttag gtccctgtcc tctgtctttg aggctgggta 360
 ggaagcaaga gtcctgatct ttcagtctgc acaatatgag catgcaaaaa gctttttcca 420
 gcagaacatg ttccctcgct tccagttgcc cggaaaaagga atttggggga tcaaagaact 480
 tagcttggn caccatgg ttgagttctg gccttggaan ancccaagcc aagtnangga 540
 ccnagacctt ggccggaaac cnttaagggc aattccn 577

<210> 543
 <211> 607
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(607)
 <223> n = A,T,C or G

<400> 543
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 gattgagtgc agtcagggcc atgtcttcac tcgggggact cancaggctt atacctcaag 120
 caggcacagt gatgcggcgc cttatctctg attggagtggt taccanattg gtgagtgacc 180
 taagtcaggt gaccgttcac ctgatggcct caccactga agagaatgct gatcactgtc 240
 ttgatccctt ggtaacaaag acccacctgc tgagcttgct ctccctcacc taccaacggn 300
 ntancaattc gcacagctga cgaggagctc tctgntcgtg atggggatcc tacctttcat 360
 acanatcagc tgcacttagt nnanttacng atttctggac aaactaccaa tcganacatt 420
 gcctttgggt aattgatggg tccctnggcc gngacaant taggggcgaa tttccatnca 480
 actgggcggg ccgntactan cngnatccta nctttgggac ctaatcttgt tgtanccatg 540
 genttacntg tacctctggg taatcntatc cngtanaanta tccnnanctt tactngccng 600
 anntnng 607

<210> 544
 <211> 570
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(570)

<223> n = A,T,C or G

<400> 544

acttgggctt	ctttcagctg	cttcaacaga	gtggcagcaa	ccaagctgga	gtccaagccc	60
cctgataaaa	ggcagccaat	ccttctgtct	gtcatcaaac	gtttctttac	agcattatta	120
aaaaggatcc	tgaggttggt	cttcacagtt	tctatctcaa	aacctggaaa	gagtttctcc	180
acattgtcat	agagggcgtg	caggggttca	tcccgcagct	gatgatattt	aaccatttcc	240
acggatgcaa	ctttgccatt	tggctttaaa	tccaaaactt	catagtgtcc	aggaagaaaa	300
ggctccactt	ttaaaaaggg	agtcgcggag	tgcttcaatg	taacaagacc	tttagcttct	360
gaacatacag	ccaaaaatcc	atcttctgtc	attgctttta	acaaagggtc	gactccatat	420
gtatctctac	ccaggaacac	tttcttattg	gcagtatcca	gtaaaacaaa	tgcnaacaca	480
ccatccaaca	tacaaattgn	ttgctcaatt	cctcctttgg	cataaagatg	aaggattatc	540
tcaccaatcc	acttttggnc	tggnattcaa				570

<210> 545

<211> 330

<212> DNA

<213> Homo sapiens

<400> 545

accgtccagg	atctccaggt	catagccatc	agccagacac	cagttgacgc	ttgtctcctt	60
agtcttccc	gattgccttt	tggaatcata	tatgctgact	ctgccaacct	tgggggtggt	120
gacaataaag	ggatgtcgta	gtccatccctc	aaatgcactc	ccatctcttg	tcacacgaca	180
gcaaatagca	cgggtcagat	gcccttggct	gaaaaggtaa	cccaatgtga	cagatttgag	240
ataaatgggc	tcaggaagt	gggtcaacag	tgcccccttg	aggcccagca	cgttccagcg	300
taggattttg	tcactacagg	acatggtacc				330

<210> 546

<211> 589

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(589)

<223> n = A,T,C or G

<400> 546

ggtaccagag	gcactgtgga	tgggccacgg	aatgaattgt	cccgggtctc	caaaaagaac	60
atTTTTcttc	tattttaagaa	gctctgctcc	ttccgttacc	gcagggatct	actgagactc	120
tcctatgggtg	aggccaagaa	agctgcccg	gactacgaga	cggccaagaa	ctacttcaaa	180
aaaggcctga	aggatatggg	ctatgggaac	tggattagca	aaccccagga	ggaaaagaac	240
ttttatctct	gcccagtata	gtatgctcca	gtgacagatg	gattagggcg	tgtcatacta	300
gggtgtgaga	gaggtaggtc	gtagcattec	tcatcacatg	gtcaggggat	tttttttttt	360
cctttttttt	ttctttttta	gccataattg	gtgatactga	aaactttggg	gttcccattt	420
atcctgcttt	ctttgggatt	gctaagcaag	gncttggcca	agccccccct	ttttttcccc	480
caaggngaaa	agnccnaaan	cctaanaagn	tatcctttct	ttttanccca	aggcttcctt	540
tagcccttgg	nccnccctgg	ggncccnttc	ctttaaaang	tttnggttt		589

<210> 547

<211> 613

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(613)

<223> n = A,T,C or G

<400> 547

ggtaccaggt	ttaaagttag	tcttctggag	aagtattttt	gacattgagc	tctgggacag	60
gacaccttgg	gtttgtggac	tgcagcccac	tatgatgtta	ttacttctct	ggccaggcct	120
ccagtgggaag	tgcacaggca	ctcccaatgt	tgtaaatgct	ctgtcttcca	tttgttctgg	180
aatcctacgt	gttggctctgt	ggttccatgc	attagctgtt	tgtaataaat	gcatttgcat	240
actgaaaaag	gaatgccacc	tgccacagtt	gatggtgagg	aagctccttt	gacgtggtgc	300
aattttgatg	agatgtctct	ggggacacga	ggatgcccta	atgatgctga	cttgtcatgg	360
ttgcagcatt	tgaacttttg	gtgttaaaaa	naaaaacctg	tnagtctgga	accctggcaa	420
cattttacaa	ccctngnatt	tttaaaagaa	ggcntttctt	attaaaaaaa	ttcnnaaacn	480
ccaccagnnc	ctattgggtc	aaaccaattc	ctncncttnt	ggggccnctg	gttttttaaa	540
ggggcctttg	ctngaancaa	ttggnantcc	canggggttc	ganaaaaant	gaaatggttt	600
tnnncnccc	tcc					613

<210> 548

<211> 578

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(578)

<223> n = A,T,C or G

<400> 548

ggtacatatg	tattttacaa	tatacttacc	atgagtttag	aaaaatttga	attcccacca	60
ttctatacca	accaaccaca	acccactgt	ctacattccc	cagccagaag	acttagaatc	120
catgcttgag	ccaaagcctc	cattaaaaac	actgcccgac	cctgcattgg	atgctgatcc	180
ccaaccaatt	gctgcaccag	aattagagcc	actataagag	ttatttccag	aaccgaaggc	240
ctggtttggc	tccctctgca	tgttgccctg	gttttggtta	ttacccgatg	ggcctgactg	300
gttctgctgg	ctggctaaca	tgcccatcat	accccaactg	ctctgtantg	ctgcctgggc	360
ggcagccatc	atggctggat	taatgctgaa	cgcacccaag	ttcatccacc	accatattac	420
tacctttgat	ggttnccaaa	ncaagtcacc	cctntgggtta	ttaccaaata	caccctggat	480
cccaaagccc	cctgggatta	ccccccaaan	tttnccttnt	ttntaaatng	ccaatgnnta	540
tggggcttaa	ggtcngcntt	ngatttttga	accctgnt			578

<210> 549

<211> 620

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(620)

<223> n = A,T,C or G

<400> 549

ggtacgcatg	tcacttccca	tcatggaacc	actcatgggt	gctgggtggaa	cgccaggatt	60
agcttcataa	cctatgccac	caccacctcc	tagagggtgga	aattttctggc	ctcctgaacc	120
atagggatct	cccattgtta	ttgtctctcc	gccacccatt	cgcattgtctc	tttcccgtgg	180
atccatgtag	cccattcggc	tgtaactttc	ctctctttgg	cgcctcattt	gttcttccat	240
ctcacgttga	cgaatcatca	tctcttctcc	tcttctacgt	cgntcctcct	cttgccctcaa	300
ttgcatttct	ttacgtttct	gcatttcttg	attgtgaaag	ttcttccatg	cgtcttaatt	360
cttcctgtcg	tctcatcaga	tcttggcgca	aaagatttgc	ctgatgttca	tgatanggca	420
ttttccattt	cacttttcca	atttggncct	ttggcanctt	ttcannngntg	tnnttcaaac	480
ttnggtncct	tttggctggg	nttttcccat	ntcnatncan	atgagnnttg	nnntggngng	540
ggagnantgg	tnggnccta	nnctgtccgg	cccntntnaa	angggcgnaa	tttcnnaagc	600
cncatggng	ggccggtant					620

<210> 550

<211> 577

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(577)

<223> n = A,T,C or G

<400> 550

acctatgttt	cacctcctgg	aaatgaagag	gaagaatcaa	aaatcttcac	cactcttgac	60
cctgcttctc	tggtttggct	gactgaggag	gagccagaac	cagcagaggt	cacaagcacc	120
tcccagagcc	ctcactctcc	agattccagt	cagagctccc	tggtcagga	ggaagaggag	180
gaagaccaag	ggagaaccag	gaaacggaaa	cagagtgggtc	attccccagc	ccgggctgga	240
aagcagcgca	tgaaggagaa	agaacaggag	aatgaaagga	aagtggcaca	gctagctgaa	300
gagaatgaac	ggctcaagca	ggaaatcgag	cgcctgacca	gggaagtaga	ggcgactcgc	360
cgagctctga	ttgaccgaat	gggtgaatct	gcaccaagca	tgaaccaatt	ggggagcatc	420
aagtccccca	cttgggccac	acttaccac	cttttccaga	agtggcttct	gntaccttt	480
nacttanngc	catgggtggg	accttaattc	ccattcccca	gggggaagnt	ttgaattacc	540
aaaggggaagg	gtttnacctn	gttttagaaa	ttngccc			577

<210> 551

<211> 573

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(573)

<223> n = A,T,C or G

<400> 551

ggtacaaacc	atcttctact	gtgacttctt	ctacttgtat	gtgaccaaag	tccttaaggg	60
aaagaagtta	agtcttccaa	tgccaatctg	aggaccttca	gagacagtct	acgccttaac	120
aagcacatga	aggaaactat	tttgaatgtt	ctctttggca	acttatccat	aatttgggat	180
caaattgttaa	aaccagaaaa	gtgttttagtg	tggatttcag	caaaacctga	tcatccacc	240
cagaagacct	tctcatcaat	agatcgccct	ttaaagaccca	ttgtaagggtc	ataaaaaacc	300
tcggccaact	gcacaaagat	ggtgcctcac	tgcaacaaga	aaccttaagg	tgtcttaccg	360
acgaaataaa	aaacataaat	gattgntctc	caaaggcctg	agggcaagac	tcatgatgag	420
caagtcaacc	cccaatctgg	aacaatggcc	ttctnttaaa	atgnccact	taagaccgt	480

taaaatatta ggganctggc ccggcgggccc tttaaanggc naattcngnc nctggngggc 540
ntacttangg gaccaacttn ggnccangtt ngg 573

<210> 552
<211> 581
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(581)
<223> n = A,T,C or G

<400> 552
ggtacattca ggaataatca tatcactggt tacatacaac tctcatgcaa agaaaaaccct 60
caaaaaacaa acaaaaaaaaa ccctcagtta gttgttttct taagtctaata taatccaaac 120
taataatagc catttaatta gcaatctgta aatcagagag gtatagaaat tcagcagcta 180
aactgtattt tccacctata gcactgctgc tactcaaact attttcttca cgtattagaa 240
gaattcatag gcattgatgg tcaaaaataag aatttcaaca tagcagcaaa tgacagaaga 300
gtgagagaaa gagctcctaa tgtggtgaca gtcttaataa tcctttaaaa ggtagaagat 360
tgngtgcgta tgtgtggaaa ggagtaggaa agaaaagcat gaggttaaga cagggtattta 420
aaggggaatgg cgagatagct accttagaat atttattttt ttaaaaaact gctctgaaat 480
ctgcccagtg tacctgcccg gcngncnttc naagggcnaa ttttgncnna tntnnttcan 540
cttggcgggc cgtnnacctg gntttttaan ggccccantt c 581

<210> 553
<211> 575
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(575)
<223> n = A,T,C or G

<400> 553
ggtactgccc ttggaacctt tgctgagggc tttgtaattc ctagttaaaa tccatttgta 60
atattgtttc tgtaaagcac tcattttccat tcttaaaatc tgctcaacct tggcaggaag 120
agatttttcc acatctttct taactcggcg taacagaaat ggctcaagct ccttgtgaag 180
gcttgcataa ccatattctc tccctttgcc atgttcttct tcaaaatctt cccaggaaga 240
aaacttttct ggcataatga aatgtagcaa agaccagagc tctttgaggg aattctgtag 300
aggagttcca gtgataagga gacgatgatt ggattttaaaa tctattaaag ttttatacag 360
aagggagtc tcatcttta atcggtgtgc ttcatacaaca cctataaatg cccaatttaa 420
gaccttccag ggaatgcctt aaaataatag aaaaacagta ttttgagaga aaaaccggaa 480
ttcaaattta gcccttccat ttaatctgac tcaattatta aaatgaaatn naaattaaaa 540
accaactttg gcctaatttt caaataaaaa atcgn 575

<210> 554
<211> 548
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(548)
 <223> n = A,T,C or G

<400> 554
 acggaggact ccattaataa catggaaatc tccactctga aagcgattca ccattttctgt 60
 cagcaagtca ggccattttct gtggaaaatc ttctctgccata ataatgctaa ttgcatcact 120
 taactgcttc tgaatttgct ctgggctgct aagcatcaag tgcactatgt tggctttaat 180
 ggccactcga tcggcttcac aaattttgtt tggttcatct tcaacaattc tccagttcct 240
 tttaatatag tttttgaatg ttactgaagc acatactttg ataacattat cctgggactt 300
 ctccagtaat gtcaaaagca acagtggata attctgattt ccttcaacag attcaagaaa 360
 tttctcagct ggacgtcgga tggcaggatc aggatcaagt gttttcttta aatattctgt 420
 tagtgtttgc agatttgcac cgctgagttc cattgctata ggatctcgtg gggatacaga 480
 aaccgaggaa ggaacccacg ccgcggaccg taactngcac taccgccgta cctngggcgc 540
 gaaacacg 548

<210> 555
 <211> 576
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(576)
 <223> n = A,T,C or G

<400> 555
 actccctgca taacaagaga ttatttttga gacagttgat aaaaaccata catccttttt 60
 attgttaagt cataaagagg tatcaaaatt aaaagcaaaa attacagggt aagacttaac 120
 aaaactacta ggagcgtcaa aggaagtga aatgggacta ggcgcggggc aatatgaatt 180
 aatgaacatg ggaaggacaa ggatggggag aacagtgagc atgtgctgaa gatactaggg 240
 gagaggatct ggtgaaaaat ttgatcttag acaagcgctt aggtaaagaa ataatgggat 300
 aagattttcta aaccccacta tgtgcttaag agtcacctc gccattggcg ctgncctctgn 360
 catcctctcc ttctcacctc tttttcatca tccttgatca actccagctt ggcattcccc 420
 cgatcttcat tatcattaat cttccagtan gncctcttc ttagcanaag taatntgnac 480
 cccctttana attcattttt ccatttgnct aaattttttt tccnggacnn gtnggnntgg 540
 gcccttttng nnntaaaant ttttaantctt acnngg 576

<210> 556
 <211> 613
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(613)
 <223> n = A,T,C or G

<400> 556
 ggtacctctt cccatgactg caccagctc caggggcccct tgggacagcc agagctgggt 60
 ggggacagtg ataggcccaa ggtccctctc acatcccagc agcccaagct taatagccct 120
 cccctcaac ctaccattg tgaagcacct actatgtgct ggggtgcctc cacacttgct 180
 ggggctcacg gggcctccaa cccatttaac caccatggga aactgttgtg ggcgctgctt 240

ccaggataag	gagactgagg	cttagagaga	ggaggcagcc	ccctccacac	cagtggcctc	300
gtgggttatta	gcaaggctgg	gtaatgtgaa	ggcccaagag	cagagtctgg	gcctctgact	360
ctgagtcac	tgctccat	ataacccag	cctgacctga	nacttgctcg	aaaagctgtc	420
ttggggcctt	ttatnaaata	aaaagacttn	agncnatgac	aangganggt	ttaagaangg	480
gacttgnggg	gaantnggaa	gnnannaanc	ccttggttgg	ggtttaagnn	nccccacgtt	540
tggccaggg	angtggtt	ttccttnttg	ggnccttngg	tnncttngg	ggacanaagg	600
nnntttgnac	ccc					613

<210> 557

<211> 607

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(607)

<223> n = A,T,C or G

<400> 557

acctggatga	aaagcagagg	gaccccagaa	tcgaagcgag	caaagtgtctg	ctgtgccatg	60
gggagctgcg	gagcaagagt	ggacataaac	tttacat	cctgtttcaa	gacatcttgg	120
ttctgactcg	gcccgtcaca	cggaacgaac	ggcactctta	ccaggtttac	cggcagccaa	180
tcccagtgcca	agagctagtc	ctagaagacc	tgcaggatgg	agatgtgaga	atgggaggct	240
cctttcgagg	agctttcagt	aactcagaga	aagctaaaaa	tatctttaga	attcgcttcc	300
atgacccctc	tccagcccag	tctcacactc	tgcaagccaa	tgacgtgttc	cacaagcagc	360
agtggttcaa	ctgtattcga	gcggccattg	cccccttcca	gtcggcaggc	aagtccacct	420
gaactgcagg	gcctggccgg	agctgtacga	aaaatgtgaa	ggggaaccac	cctttgcgag	480
gaactnacag	cccaaaggaa	ggcattcaca	gtttcagtg	tacttcaggt	agaaagttga	540
tgaaaaccct	taccagantg	tggcttttgg	cattgcaa	ggcagaggcc	agcaagaact	600
taaannt						607

<210> 558

<211> 355

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(355)

<223> n = A,T,C or G

<400> 558

acaaagacaa	agaaacaaac	tacattggca	tttaagccaa	tcaaaaaagg	aaagaagaga	60
aatccctggt	ctgattcaga	atcagatagg	agcagtgcg	aaagtaattt	tgatgtccct	120
ccacgagaaa	cagagccacg	gagagcagca	acaaaaacaa	aattcacaat	ggatttggat	180
tcagatgaag	atttctcaga	ttttgatgaa	aaaactgatg	atgaagattt	tgtcccatca	240
gatgctagtc	cacctaaagac	caaaacttcc	ccaaaactta	gtaacaaaga	actgaaacca	300
cagaaaagtg	tcgtgtcaga	ccttgaagct	gatgatgtta	agggcagtg	acctn	355

<210> 559

<211> 597

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(597)
 <223> n = A,T,C or G

<400> 559
 acccgcaaaa cgggacatag tatgtgacaa tctgcatcga tcatggacta ctaaatagcct 60
 ttacatagaa gggctctgat ttgcacaatt tgttgaaaaa tcacaaaccc atagaaaagt 120
 aagtaggcta agttggggag gctcaaacca ttaaggggta aaaatacatc ttaaaccattg 180
 gaaagctctt ctactgaat ctgaaatatt accccttgct tagaaaaagg ggggcagtca 240
 gaacagctgt tccccactcc gtgggtctca aaatcataaa ccatgggtac tcttgggaac 300
 caccggcca tgtggctgcc aagtagagca agcccccttt ctcttcccaa tcacgtggct 360
 gagtgtggat gacttttatt ttaggagaag ggcgattaac actttttgac agtattttgn 420
 tttgccctga tttgggggat tgnnttggtt ttgggtgggt gttttggaaa aacnggttat 480
 aaactgggtt tttgnangnt ttgggatttt aaagcccnaa ataaaaaann nnanaaaaaa 540
 aaagnctttg gnctttgggc cggaaaccct taangggcna attccagcca ccttggg 597

<210> 560
 <211> 559
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(559)
 <223> n = A,T,C or G

<400> 560
 gactttgagg caagtgtggg ccactgtggg ggcagtgagg gtgggggtgtt tgggaggctg 60
 cgtgccagtc aagaagaaaa aggtttgcat tctcacattg ccaggatgat aagttccttt 120
 ccttttcttt aaagaagttg aagtttagga atcctttggt gccaaactggt gtttgaaagt 180
 agggacctca gaggtttacc tagagaacag gtgggtttta agggttatct tagatgtttc 240
 acaccggaag gtttttaaac actaaaatat ataatttata gttaaggcta aaaagtatat 300
 ttattgcaga ggatgttcat aaggccagta tgatttataa atgcaatctc ccttgattta 360
 aacacacaga tcacacacac acacacacac acacaaaccn tntgcctttg atgttacaga 420
 ttttantccg ttnattttta aggatagagc ctttatnggt gnnnanaaaa caatctggan 480
 taaaaaaaaac ncncnnggcc ttgnatttng ncttnntngg ggtttcccca aanccattnn 540
 nnttgncagg ctnggggng 559

<210> 561
 <211> 569
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(569)
 <223> n = A,T,C or G

<400> 561
 ggtacaagct tttttttttt tttttttttt tttttttact ttttgggana naggctagga 60
 ggaggaaggg gtgaaaacag cgtctcactg gagtctcaaa agtgtatgaa tcttctggta 120

gtgcaaggat	gggataagat	ggccagggaa	gtcagatgga	aaatccccaa	gattcctttt	180
gctactgatt	tctataatta	aaatatgaca	tatgtaaggg	actagtgcac	gatattcaat	240
aaatgtcagt	tgtctttcct	aactagggtc	ctcacaggct	aggttatgcc	tanatatcat	300
catcctcctt	tcagggaatg	aagctcacct	agaaaactag	ggaactaaaa	gtgcaatatg	360
gtttgggtaa	tgcagtgggt	tagctgctcc	ccatcctccc	aactcactat	tccaggggag	420
ggctgaaaac	agaaatgggt	cccctgaagc	tanntagcat	ggcatgcana	gtcncatgaa	480
aggtttgggc	tgggaattttt	aagccaagnc	ctnttttttg	gaaaaaaatn	ttgggaaaaa	540
ancccnccc	tnctgnttcn	nagctgttt				569

<210> 562

<211> 597

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(597)

<223> n = A,T,C or G

<400> 562

cgaggtagcg	atgctacttg	tccaatgatg	gtaaaagggt	agcttactgg	ttgtcctccg	60
attcagggtta	gaatgaggag	gtctgcggtc	aggagtcaat	aaagtgattg	gcttagtggg	120
cgaaatatta	tgctttgttg	tttggatata	tggaggatgg	ggattattgc	taggatgagg	180
atggatagta	atagggcaag	gacgcctcct	agtttgtag	ggacggatcg	gagaattgtg	240
taggcgaata	ggaaatatca	ttcgggcttg	atgtggggag	gggtgtttaa	gggggtggct	300
aggggtataat	tgtctgggtc	gcctaggagg	tctggtgaga	atagtgttaa	tgtcattaag	360
gagagaagga	agagaagtaa	gcccggaggc	cgtctttgat	tgtgtagtaa	gggggtggaag	420
gtgattttat	ccggaatggg	aagtgatnct	aagggggggt	gtttganncc	cttttcntgc	480
cntaaantgg	angtngaatt	ccnnntnngg	cncncatana	ttanaggcca	aaatnaaatt	540
gaanggnnaa	aaaancttnn	anggggggga	ctgntnnntg	agaaccccc	taaaatn	597

<210> 563

<211> 574

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(574)

<223> n = A,T,C or G

<400> 563

acgccaaagaa	ccgtattcct	tgccacaggg	ttttatgtgg	gacactttag	acttgagtga	60
tgccgaagtg	ctcaaggagt	tatacacgtt	gttaaattgag	aattacgtag	aagatgatga	120
caatatgttc	cgatttgact	attcacccca	gttcctgttg	tgggctctgc	gtccaccagg	180
ctggctcctg	cagtggcact	gtgggggtcag	agtgtcttca	aataaaaaaac	tggtcggggt	240
cataagtgcc	atcccagcaa	acattcggat	ttatgacagt	gtgaagaaga	tggtagaaat	300
caactttcct	tgtgttcata	agaagttgag	atcgaaacgg	gtagccccag	tgctaataccg	360
agagatcact	agaagagtga	acctggaagg	gatcttccag	gctgtgtcaa	aaagcacact	420
ctccannccct	cngggccctg	cattcctgcg	cttntntnna	gacactttcc	ctttctattt	480
tactgnggtg	actttttcaa	acgctgtnac	cccaaccctt	anantttttt	gcccttggcg	540
gnntatnggt	taaanattcac	ccttcccngg	gttt			574

<210> 564
 <211> 600
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(600)
 <223> n = A,T,C or G

<400> 564

ggtacagaat	atttctaata	aacctaata	taatcacagt	taaaatttct	caaaagtatt	60
ttcaagtgt	caagaatatt	aaagtttggg	gggaaatacc	taagtcataa	ataagcaagt	120
attccctcca	agattcacta	attgggataa	aagtctcagg	gtaagcccac	aagaatggtc	180
tgcaataaag	aaaaatcagg	tctgtgtaga	gtaatttctg	ccatctttag	cagaaaagcc	240
aaaaacattc	tgagccaaat	aaaagcaaag	atcttttgat	tcagcgcctt	ttgttgtgtt	300
agtttttaatt	tctaacttct	caacatgtta	tagctcagaa	attcccatat	gcttactatc	360
tgtataaagg	aactataacg	ttaaagaaaa	aattcagaga	ccgtgatcat	tttccatcat	420
aggctctggct	ctctttggta	gaaacagatc	aagacttact	ttatttttct	cttccccncc	480
ngaagaaaaan	gggggggtta	atggcnttta	cccttggnnaa	anaaccncg	nggggtttaac	540
cttnaaattn	gngggggtaa	aanancctaa	ngntnagccc	tttttnanaa	ctnggggnaa	600

<210> 565
 <211> 600
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(600)
 <223> n = A,T,C or G

<400> 565

accatcggcc	atgtggacca	cggaagacc	acactgactg	cagccatcac	gaagattcta	60
gctgagggag	gtggggctaa	gttcaagaag	taccaggctg	tttgtgatcg	tatcagccgc	120
tatgtgaaac	agcctttacc	tgatgagttt	ggcagctcac	ccttggagcc	aggggcctgc	180
aatggctcca	ggaacagctg	tgaaggagaa	gatgaggaag	aaatggagca	tcaggaagaa	240
ggcaaagagc	agnttttnana	aacagaaggc	agnggggaag	atgagccagg	aaatgacccc	300
agtgagacca	cccaaaagaa	gatcaaaggc	cagccctgcc	caaaaaggct	tnntttaccnt	360
cagtcttctg	aactcctatg	gaacagctga	cataaatttc	actttgcagc	tnatggaaaa	420
ctacntaaac	tcaantnttc	ganctacact	tggncttgga	tttgtgacnt	ttgaaaactn	480
tggaganttt	tnctatgnnt	gtgcncnnaa	attnntaggg	ntntnccnat	aaatctctgt	540
tanccttttt	gggnaccntt	tcaagnaag	atntnangnc	cctanggncc	nttnaaaaan	600

<210> 566
 <211> 576
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(576)
 <223> n = A,T,C or G

<400> 566

ggtactgaac	aggtaagtca	tccctcagcc	agagattagt	ctacttcttc	catgcgtgat	60
gtgtcgtcat	ctccttcaag	gggtgttttc	tttatttttg	ttaatatata	aaagtctgta	120
tggcatgaca	actacttta	ggggaagata	agatttctgt	ctactaagt	atgctgtgat	180
accttaggca	ctaaagcaga	gctagtaatg	ctttttgagt	ttcatgttg	tttattttca	240
cagattgggg	taacgtgcac	tgtaaagacgt	atgtaacatg	atgttaactt	tgtgggtctaa	300
agtgttttagc	tgtcaagccg	gatgcctaag	tagaccaa	cttggtattg	aagtgttctg	360
agctgtatct	tgatgtttag	aaaagtattc	gttacatctt	gtagggatct	actttttgaa	420
ctttttcatt	ccctgnaggt	gacaantctg	catggacctg	ccccgggcgg	cccttnaaan	480
ggcgaanttc	annncantgg	ngggcnntct	tngggnnccn	ncctgggcc	aatntggggg	540
ancnggggna	ancntntccn	tgggggaaatg	gntccc			576

<210> 567

<211> 427

<212> DNA

<213> Homo sapiens

<400> 567

ttttggcagt	aaatcaattt	tattttgtgtt	cacagaacat	actaggcgat	ctcgacagtc	60
gtcccgtagc	agcccaccaa	cccccaaccc	tctacctcgc	agccacccta	aaggcgactt	120
caagaagatg	gaaggatctc	acggatctca	tctctaattg	tccgccgaag	tctcacacag	180
tagacagacg	gagttgagat	gctggaggat	gcagtcacct	cctaaactta	cgaccaccca	240
ccagacttca	tcccagccgg	gacgtcctcc	cccaccggag	tctcccccat	ttcttctcct	300
actttgccgc	agttccaggt	gtcctgcttc	caccagtccc	acaaagctca	ataaataacca	360
agagacctgc	atttacagca	gggggaacat	ctcacacctt	tgcataagtt	aaaataaata	420
ttaccgt						427

<210> 568

<211> 616

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(616)

<223> n = A,T,C or G

<400> 568

acaagagtga	tggcaatgtg	actggaacag	aaatagtttc	taccaggcac	acaaaagctc	60
ctgtaagccc	cgtagtccg	tcctgcaaag	ggcctcagtg	ggaaccagg	ctgcagaccc	120
gagtgggcag	agagacgggt	ggaagcagg	gcccagatg	gtcccgcagg	cgtcaccgtc	180
tggtttgag	accttaagg	agttgtgctt	caaacttctc	tcccagggtc	tcagggtggag	240
actagggagt	ttgacctaaa	ggtcctccaa	ggagaggcca	aggtcttgga	gacagatctg	300
gtttaccatc	ttttaacaaa	aggcaaagt	cttctcttct	tcagaaagag	tcattaacac	360
taaaattctt	ttcttnngaa	gtttcttctt	ttccgatgcc	atcttccaag	tttgncccc	420
agaatgaaag	gcgtcttttn	ccnaagggtc	aagggtttcc	attcacnttg	ggccccattg	480
naaaaggac	tggttccttt	tgggggggtg	ggncccggac	cccccaaana	aggnaangg	540
ttttgtnecc	aagcctttnt	tcccnggggn	gggaagggna	anaacctttg	ggcccnggna	600
accacactta	angggg					616

<210> 569

<211> 582

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(582)
<223> n = A,T,C or G

<400> 569

acagaatata	acgcagcttg	gcaggatgca	tacggccctg	cgcaggggaa	agtatttcaa	60
atcagctggc	aggttcaagc	ctttctgcac	tgtagacttt	ccacactctg	gaaaagaagc	120
aaacaaacaa	accccaaaga	acccccgaaa	aaaacaaaaa	ccatccggga	ggtgcatgag	180
tccaatggga	atgcaaccgt	gatgccgctg	tcctatgccc	agtgcagca	caggtcacgt	240
aagttacagc	aggggagggg	tagctcaagc	tacagaggat	tattgtcata	ttgctaagac	300
agcataaatc	cattcaaaaa	aaaaaaaaaa	aatccaaacc	agggttaagta	aagaaaggaa	360
aaccaaatct	atacagcatt	tacaacaaat	aaatctctag	ccagctgggg	gtaaaatatg	420
catctatgta	tagactatgt	gtagggtaag	aaaagctttt	aatatngggt	anaaagaggn	480
cctttgatta	aaggccttgg	cccgaacncc	cttaaggnnn	aattcnagnc	nattgggggc	540
cggtcnaagg	ggatccaacn	tgggnccaaa	nttgngaat	nn		582

<210> 570
<211> 557
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(557)
<223> n = A,T,C or G

<400> 570

ccgggcaggt	acttcttgcc	tttaagatag	gcaccaggaa	atctttcaag	gatctcatag	60
tcactctcca	atcttatagag	ggctgacaat	ctggcttcca	ttaaaatgag	taatcgctct	120
ctggcaacat	ctttaatttt	cacatattgc	atttctggat	taacacacac	agcaagggtta	180
ctaggtagag	tccaggaggat	ggttgtecaa	gcaactaaag	atacagtttc	atcttcttcc	240
aaagggaaa	ttacaaatac	tgaaggatct	tgaacatcct	tataattctg	gtgtgactcg	300
aagttggaaa	gtggagtgtt	acatgccgta	gagaagggca	tgactttcac	acctctataa	360
acaaggcctt	tatcatagag	ttgggttgaag	acccaccaga	ctgattccat	gaattgtgga	420
tacagagttt	tatagtcatt	ggcaaagtna	atncatcggc	aagttgctac	aggagacttc	480
actnannnaa	atctcatcnc	aatnnntgga	ctnatggata	cctnggannc	ccntttngcc	540
caatctgggc	ctngatn					557

<210> 571
<211> 382
<212> DNA
<213> Homo sapiens

<400> 571

acactgctct	cttcttgcca	attgacagtg	gtaaccctcc	cgctacgggc	actgggactt	60
tgctgataac	cctggaggac	gtgaatgaca	atgccccgtt	catttaccac	acagtagctg	120
aagtctgtga	tgatgccaaa	aacctcagtg	tagtcatttt	gggagcatca	gataaggatc	180
ttcacccgaa	tacagatcct	ttcaaatttg	aaatccacaa	acaagctggt	cctgataaag	240
tctggaagat	ctccaagatc	aacaatacac	acgccctggt	aagccttctt	caaaatctga	300

acaaagcaaa ctacaacctg cccatcatgg tgacagattc agggaaacca cccatgacga 360
 atatcacaga tctcagggtta cc 382

<210> 572
 <211> 621
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(621)
 <223> n = A,T,C or G

<400> 572
 acaagctttt tttttttttt tttttttttt tttttttgcc atttattgcc atgtttttaa 60
 attcgtgcaa aatatntgaa gccctggaca gagaatacaa agtgatattt tccaagaaa 120
 cntaaaacta ggaaaagggt tgggggacat tttcccacca nagctncccc cagccaggc 180
 cccaagcagg gtgaggcctn caaccgggc agctgagcag ggaggactaa gagctacaat 240
 ctggaccang gaaggagggt tggaaatttg aacagngtnt taactaccaa cgagaggaaa 300
 gccagtcaac tgtacaacct cttgcggagc ggggaagggt actaccngaa caagacatgc 360
 tgcctgcccct gtgcttggtg gctgcaaagt gggnttccaa taagtgggtc catgaacgag 420
 gacaggagtt tttgancctt gnggatcaac aaaangttna ctgacatccn tttctgcctt 480
 tccctttcct ggnnctttta anccatgtca acnntgacan acnctntng atggctccctt 540
 tggnagtcct aatnaggctg atttttggan nantnaatnt ttttttgaa cncaaggnga 600
 acnttttttg ngaattttng g 621

<210> 573
 <211> 296
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(296)
 <223> n = A,T,C or G

<400> 573
 ggtactcatt gtgctctttg gtgcctttcc tttcctacag aaaaggaagt gatctatacc 60
 aaggtttgca ggggaagtcaa atgttctcaa cctttcatgc cctctgggta ctcatctggc 120
 ttgcaaaata atttggatcc ggacagattt ccagtatttt caagtccgct gctttcccgc 180
 aaagctcggc ctaacctgga gctagttagg tccgcaggcg ccaccgncgg cgcactccgg 240
 agaagaagct ccttcttcag ccgcccagga gagttcctcg agaaagatgc cgccgc 296

<210> 574
 <211> 616
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(616)
 <223> n = A,T,C or G

<400> 574

ggtactccaa	cgccaccctg	tgcagaaatg	agagaagaca	gtgctagagt	ctatgaaaac	60
gtgggcctga	tgcaacagca	gaaaagtttc	agatgagaaa	acctgccaaa	acttcagcac	120
agaaatagat	gtggactttc	accctctccc	taaaaagatc	aagaacagac	gcaagaaagt	180
ttatgtgaag	acagaatttg	gatttggaag	gcttgcaatg	tggttgacta	ccttttgata	240
agcaaaattt	gaaaccattt	aaagaccact	gtatttttaac	tcaacaatac	ctgcttccca	300
attactcatt	tcctcagata	agaagaaatc	atctctacaa	tgtagacaac	attatatttt	360
ataggaattt	gtttgaaatt	gaggaagcag	ttaaattgtg	cgctgtattt	tgcagattat	420
ggggattcaa	attctagtaa	taggcttttt	tattttattt	ttataccctt	aaccagggtta	480
attttttttt	ttcctcattg	gtnggggatg	atgagaagaa	atgattnggg	aaaattaagt	540
accaacgnac	tagaaaagtg	agaaccattc	tatttcccnt	ntggttccng	gagnggataa	600
ttcatttgan	ggcttn					616

<210> 575

<211> 614

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(614)

<223> n = A,T,C or G

<400> 575

ggtacaaaca	ttttacaaaa	aagaacatta	ccaatatcag	tggcagtaag	ggcaagctga	60
agaataaata	gactgagttt	cggggcaatg	tctgtcctca	aagacatcca	aactgcgttc	120
aggcagctga	aacaggcttc	tttcccagtg	acaagcatat	gtggtcagta	atacaaacga	180
tggtaaatga	ggctactaca	taggcccagt	taacaaactc	ctcttctcct	cgggtaggcc	240
atgatacaag	tggaactcat	caaataattt	aaacccaagg	cgataacaac	gctatttccc	300
atctaaactc	atttaagcct	tcacaatgtc	gcaatggatt	caagttactt	gcaaacgatc	360
cggggttgtc	atacagatac	ttgnttttta	cacataacgc	tatgccatcc	cttncttcac	420
tgccagtgta	ggtttcctgn	tgttggaccg	aaaggggatc	cttttaaaaa	tgcttcnttc	480
aagacagaag	tgagaaagaa	aggagaccct	gaggccagan	ctattaaaaac	ttgtgngtcc	540
ccaaaaggaa	ggggaaagggn	agaattgaaa	ggaaacggnt	ctttngccca	ggatnggaan	600
cgggactacn	ttgg					614

<210> 576

<211> 596

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(596)

<223> n = A,T,C or G

<400> 576

acatcaagac	ttttggaaca	gcgatcgtaa	tcaatcctga	gaaagacaaa	gacatgggtcc	60
aagacctgtt	ggacttcaag	gacaagggtg	accacgtgat	cgaggtctgc	ttccagaaga	120
atgagcgggt	cgtaaacctg	atgaaggagt	cctttgagac	gttcatcaac	aagagacca	180
acaagcctgc	agaactgata	gcaaagcatg	tggattcaaa	gttaagagca	ggcaacaaag	240
aagccacaga	cgaggagctg	gagcggacgt	tggacaagat	catgatcctg	ttcagggttta	300
tccacggtaa	agatgtcttt	gaagcatttt	ataaaaaaga	tttggcaaaa	agactccttg	360

ttgggaaaag	tgcctcagtc	gatgctgaaa	agtctatggt	gtcaaagctc	aagcatgagt	420
gcggtgcagc	cttcaccagc	aagctggaag	gntgttcaag	gacatggagc	tttcaangac	480
atcatgggtca	tttcaagcca	gcntatgcag	nacngagtg	cttcaggcct	atagacctac	540
agggacatct	nccatggctt	ctngccacat	aacnccatgg	aangccttac	cccaaa	596

<210> 577
 <211> 617
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(617)
 <223> n = A,T,C or G

<400> 577	
ggtaccacaa	ctcccaggat
gtatattggt	ctgagagacg
ccagtatttt	tccatgagag
atttgatctg	ctgattggca
atttgaccct	acactggctc
agaagggcatg	tatatgtctg
ttgttgaagt	caatcctcag
tggcagtaga	tgtgattgct
ctatgaccaa	ctttctactc
aaattaggag	acacttngcc
ttaggggaaa	aaataaa
tttcttggt	caaaccttgt
tgaacatttt	atctcttctg
acttggtatc	cagaagggtca
accaaaccat	ttgagttttg
aactcctgtt	gtcggggggac
gttgctatca	gcactggatc
ggcgaagact	acagctaacc
ggtcagacca	gaagaangaa
agatgaatca	gaaaatcaag
tacaaaaaag	ctttngaaa
caagtattgt	actatgatat
tggaacgaac	atattgatgc
taacctatcg	taacctatcg
gcactggatc	gcactggatc
acagctaacc	acagctaacc
ggcatattgg	ggcatattgg
cncctgtgan	cncctgtgan
tntgangcct	tntgangcct
	60
	120
	180
	240
	300
	360
	420
	480
	540
	600
	617

<210> 578
 <211> 409
 <212> DNA
 <213> Homo sapiens

<400> 578	
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tgtaacgaat	acttttctaa
ggtctactta	ggcatccggc
ttacatacgt	cttacagtgc
aaaaagcatt	actagctctg
aaatcttatc	ttccccttaa
aataaagaaa	aacatccttg
ctacagggaa	tgaaaagttc
acagctcaga	acacttcaat
aacactttag	accacaaagt
aatctgtgaa	aataaaacca
taagggtatca	cagcatcact
atgccatata	gactttttta
atcagaggaa	ttgtagagt
tcctacaaga	tcctacaaga
aacaagattt	aacaagattt
taacatcatg	taacatcatg
catgaaactc	catgaaactc
tagtagacag	tagtagacag
tattaacaaa	tattaacaaa
	60
	120
	180
	240
	300
	360
	409

<210> 579
 <211> 619
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(619)
 <223> n = A,T,C or G

<400> 579

ggtactat	ttt	tatatccaga	aagtcttctc	tatgtagaga	agtcagagag	actagatgct	60
ttcactagg	aatgtcttcc	cacccagcca	tcacaaatgt	ggacaatcac	tgcattccaca		120
tctgtaggca	tatttctatg	gaagttaa	tgacagctat	attcattatt	tattttacaa		180
tttcattttt	ctacaccttt	gagatttatg	aatgcagttt	tttcttaaaa	tttattttaa		240
cttgacagta	tggttttagt	tcccccaatt	taattaatgg	accatgtgca	tatatatggg		300
agtgtgctta	catgttaata	atttacttgc	atacttatga	gaatttcaca	ttggaattca		360
taatggtaaa	acaacataca	tctgccaaata	tacgtttttt	ctgntgggtt	aagagaagat		420
aactgacagc	tttacctact	tctacagat	gcattctaaac	ccagatttac	tgagaagaag		480
tgtattggac	tctgagtggg	aaaagagtat	gggtgtttttt	ggttttaagn	tctgctctag		540
anccataatt	ngnaaaaaat	tttaggnctt	aanctggtn	cctaaaattg	gnnanccaaa		600
ngttnaatga	aanggctgc						619

<210> 580

<211> 632

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(632)

<223> n = A,T,C or G

<400> 580

ggtacaaaca	ttttacaaaa	aagaacatta	ccaatatcag	tggtagtaag	ggcaagctga	60
agaataaata	gactgagttt	ccgggcaatg	tctgtcctca	aagacatcca	aactgcgttc	120
aggcagctga	aacaggcttc	tttcccagtg	acaagcatat	gtggtcagta	atacaaacga	180
tggtaaatga	ggctactaca	tagggcccag	taacaaactc	ctcttctcct	cgggtaggcc	240
atgatacaag	tggaaactcat	ataacaacgc	tatttcccat	ctaaactcat	ttaagccttc	300
acaatgtcgc	aatgggattca	gttacttgca	aacgatcccg	gggtgtcata	cagatacttg	360
ntttttacac	ataacgctgt	gccatccctt	ccttcactgn	cccagtcagg	tttctgttg	420
gtggaccgaa	aggggatcat	tttaagaaat	gcttccttna	agacagaaag	tgagaaagaa	480
aaggagaccc	ttgaggncag	gaactaatta	aacctgggtg	gggtgccccaa	aagggaagg	540
ggaaaggccg	gaanttgnaa	nggataaccg	nttcntttng	cccagggant	cnggaaccgt	600
ggctcgcttt	gggcttgag	anncccaaat	cc			632

<210> 581

<211> 607

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(607)

<223> n = A,T,C or G

<400> 581

acataagtga	tgaggtatca	atgctgggtg	ttgaggtgga	gaaggaattt	agttccttga	60
attttctttg	ttctcctctg	tggtccttct	tgccaggtga	acccctgcta	tatcataaga	120
tttcatctgc	gagaaaagga	ggaattcttc	tacagctccc	ctgctcaact	ttcaggagat	180
tttgaccat	gtgctgttaa	tcaccgaaat	tttttaagga	ggcttctcct	ggcatgaaag	240
agttgggtatt	gtgtcccga	ttggttggtt	cttggtctca	ctgacttcaa	aaatgaagcc	300
gcgggacctc	gcggtgagtg	ttaacagctc	tttaagggtgg	acgtctggag	tttgttcctt	360
ctgatgttcc	ggatgtgttc	agagtttctt	ccttctggta	ggttcctggc	ctcgcttggc	420

ttcaggaatg	aagctgcaga	ccttctcggg	nagtgnatca	agctcttaan	gcaggccgctc	480
tggaagtgtg	tcgttcctcc	tggggctcgt	ggtcttgctg	gctttaggag	tcaagtncaa	540
accttnaggg	tgagtgtaca	ntcatanaag	cagtgtngnc	ccaanaatna	ncnttnaaaa	600
gccaacn						607

<210> 582
 <211> 603
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(603)
 <223> n = A,T,C or G

<400> 582						
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atactcaaag	taactcagct	gggggctcca	attattgctt	ggatgctcat	ttaacctgaa	120
tgtgtaagtc	ttggtgagcc	cacaaggcag	tgtcttgcca	agtggcatca	agggagctgt	180
gatccgtaga	ccagcacctt	ccagaatcac	atcatgggca	gatgggtgtc	tgctcctctt	240
gtccacacgg	tagtcaaagg	acaggctttg	accatagctc	acctgttgat	tccaagaaa	300
tttggcagga	gccacaaaat	agacagggtc	tagtcgttgg	gctgagctaa	acacatcttg	360
atgggcgctg	tgaccattgg	agctttgcag	gagaccatt	tcgttgagca	gccttccagc	420
catcaacatc	ttgatgaaag	gtanaagtga	tcttatggac	actgnattct	gcanaactgc	480
ggcaacttgg	ctgaatgcc	tagcagaacc	ctgggtacct	tnggccgga	cacgcttang	540
gcgaattcag	cccacttggg	gccgtctann	ggnanccact	ttgggccc	cttggggaan	600
ant						603

<210> 583
 <211> 535
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(535)
 <223> n = A,T,C or G

<400> 583						
ggtacacaca	ggaccgcctg	gggctaaagg	aaatggacaa	tgcaggacag	ctagtgtttc	60
tggctacaga	aggggaccat	cttcagttgt	ctgaagaatg	gttttatgcc	cacatcatatc	120
cattccttgg	atgaaacccg	tatagttcac	aatagagctc	agggagcccc	taactcttcc	180
aaaccacatg	ggagacagtt	tccttcacgc	ccaagcctga	gctcagatcc	agcttgcaac	240
taatccttct	atcatctaac	atgccctact	tggaaagatc	taagatctga	atcttatcct	300
ttgccatctt	ctgttaccat	atggtgttga	atgcaagttt	aattaccatg	gagattgttt	360
tacaaaacttt	tgatgtggtc	aagttcagtt	ttagaaaagg	gagtctgttc	cagatcaagg	420
gccagaactg	tgcccaggcc	caaaggagac	actaactaaa	gtagtgaatg	agattctaan	480
ggcaaacatt	ttccaggctt	gccatatttc	aagcaanaag	ggccnaagcc	tgagg	535

<210> 584
 <211> 524
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(524)
 <223> n = A,T,C or G

<400> 584

acaactctct	taaaagagta	tggataacta	tattttcttg	attctggagg	ttgataacca	60
tatgcactta	acattatatt	ctataaacat	taagtagtgc	cagttatgag	attcccagtt	120
cttactaaat	tgtattagca	ggagctggta	attacttgta	ttatcacatg	taactaataa	180
tttgaactat	acttgaagga	ccgtgttgat	gtcagggtatt	tacagtgggt	ggaagatagc	240
agtattatta	gcataagctg	catacgtaat	attcagtaac	tgccatatta	tataacaaat	300
ttacattcgc	aaattcagta	tcctgttaaa	gtgtcatatt	cttgaatct	gcattctcca	360
ggagttttat	gtgtttaata	gatgaattta	ttttatttnt	aaaggatttc	aaatgntttc	420
agccncntat	aggagaaata	cccaagtata	ttctagttcc	ttnatgtccc	tgnaccctcg	480
gccngnacca	cgctaaaggg	cgaaatncaa	ncnactggg	nggn		524

<210> 585
 <211> 618
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(618)
 <223> n = A,T,C or G

<400> 585

actgactata	atcaaactcc	gaataccatt	aaaattaagc	tatgcagtcg	gaacgtgggt	60
gataacgtcc	acgctcgcga	ggggaacaac	ccagatcgtc	agctaaggtc	ccaaaattgt	120
gttaagttag	aaaggttggt	agatttcata	aacaactagg	aagttggctt	agaagcagcc	180
acctttttaa	gagtgcgtaa	ttgctcacta	gtcaagagat	cttgcgccaa	taatgtaacg	240
ggactcaaac	acaataccga	agctacgggc	acattatgtg	cgtaggaga	gcgtttta	300
ttcgttgaag	tcagaccgtg	aggactgggt	gagagattaa	aagtgagaat	gccggcatga	360
gtaacgattc	gaagtgaaga	tcttcgacgc	ctattgggaa	aggtttcctg	ggcaagggtc	420
gtccacccag	gggttagtca	gggcctanga	tgaggcanaa	atgcatagtc	gatggacaca	480
ggttaatat	cctgtacctt	cggnccngaa	cacgctaagg	gccgaattnc	agcacacttg	540
gcgggnggtc	ctagtnggat	cccancntng	ganccaactt	nggggtaatc	ntgggcttan	600
ctggttccct	ggtgaaat					618

<210> 586
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 586

acaagctttt	tttttttttt	tttttttttt	tgtttcaagt	tttaatacaa	gcttgtatat	60
aagattactt	tattcctgca	tcttctcaat	ggtttcttcc	ttgtatttgc	ccttttccct	120
tcctacttgg	cgagatttgg	ctttccgttc	gaggatcttt	ttgcggtctt	tgtccagttt	180
tagcctagt	ataaccacct	tgctgggggt	aatgcctacg	tggaagttg	tgccattagc	240
cttttccgc	tgcacccgtt	caatgtagat	aacatatttc	ttcctgtaaa	cctgggactac	300
tttgccaatt	tgctgacctt	tatagtgctc	acgtacc			337

<210> 587
 <211> 656
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(656)
 <223> n = A,T,C or G

<400> 587

cgagggtacaa	gctttttttt	tttttttttt	ttttttttct	gaggagtggc	atggagttct	60
ttaatttgga	aggcaaaagg	ttacatttaa	tgaaaggcag	aggctggatt	aataaatggt	120
tggtanaaaag	ttgtttctgac	acacagtga	ctctgggctt	ttctcctgca	taaaaagcag	180
agctagcagt	aagtgc aaat	ntgaagaaaa	tccatgtgtc	caataagctg	ccatctccan	240
aactcttatc	caggaaattc	aaagagtga	cattctttta	gtctcctact	cctcaattaa	300
gtaaatgaga	atgattcagc	caacaaagtt	catgacaaca	aggtgcagga	tggtgctggc	360
aaanagaaaa	tnagcaaagg	ctcgtctctg	ggagatgcct	tggaaatccn	ntttgntctg	420
ngggttgatc	tnattcttc	agggnaaacc	cgctagggat	gaaacttccc	accnaagan	480
aatgaaaccc	cgaaagaaaa	agangtttaa	aggggaaagg	nccccngan	ggagaccagt	540
taccggaact	tggaacncc	ccggcaagca	attttttcnc	ggcagggtnc	cctggcccng	600
ggcgcccntt	tnaaaagggg	gcaattncca	ngncacttgg	gggggcgttt	tttnng	656

<210> 588
 <211> 586
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(586)
 <223> n = A,T,C or G

<400> 588

actcaaacac	agggggggtg	tcatttatgt	caagaactga	tacaatcaca	gtgccagtgg	60
cagtcagcct	ccttggaag	ccttgatcca	cagctttcaa	agagaggggtg	tatactgcct	120
ggagttctct	gtccaaagg	ttttctaact	gaataattcc	agataattcg	ttaatggaga	180
actgcccac	agcagagtca	atcagtga	ataaaatctt	ccgatttaat	cctgcgtcgg	240
catctgtggc	ctgcactctt	gtcagcagcg	ttcccggctc	tgtgttttca	aacacgggtga	300
tggcataagg	atcggcagag	aattcggggg	cattatcggt	cacgtcttct	agcgtgagca	360
caatactggc	ttggtagaat	cttcctcctc	catctgtggc	cctgacgaga	agatgataaa	420
cagcttgctc	ctnacgatca	aaggggggtt	gacgttttca	agtcacctgg	nctggattaa	480
tttgaatttt	ctgcacctga	cccaatacgg	taagtattca	gcgtaaccgg	atgttgcggt	540
gacanaaaact	gatgacattt	tccgaaggac	tnntagga	aggtga		586

<210> 589
 <211> 645
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(645)

<223> n = A,T,C or G

<400> 589

acaagcagta	ttagaaaaatc	tttttggcaa	gggagagaaa	taaatacaaa	tggaatgcta	60
cattttttaa	ttagcaaact	gtctcaggaa	tgataaagg	atcagtaaag	tagcaagggg	120
ataactttta	aacattat	gtctggggct	caaaaaacac	tcaaaacaat	ttattttaaag	180
gttgacacaag	agctatgtcc	aggcatttac	gcttatggga	agtaaaatta	aaagaggata	240
cttttttccc	aaggagaatt	tctttaaaac	caagcacatt	gctaaatagc	aacattatac	300
tcggtaaaca	ataattggca	acaaaataag	tttaatat	tgcccaaacc	agtcccagat	360
actgtttta	aaccaagata	caaactaatt	ttgttgnaac	aagcctagac	caattttatc	420
aaacatgtcc	ttggtttagat	atccaatttc	atttaacgtt	tttgnaagct	canttgacag	480
ccagtcnagt	ccttnatacn	gacccagttc	cntgggggtg	gcacaaagt	ggnttggacc	540
ataccacca	ttcaaaaagg	cgcatntngg	ttcttggccc	aaaaaatccn	ggnaaaaaaa	600
aggganggga	aattattnaa	gggncccttg	ggnggnaatg	ggcnc		645

<210> 590

<211> 464

<212> DNA

<213> Homo sapiens

<400> 590

ggttcttgac	gaggctgcgg	tgtctgetgc	tattctccga	gcttcgcaat	gccgcctaag	60
gacgacaaga	agaagaagga	cgctggaaag	tgggccaaga	aagacaaaga	cccagtgaac	120
aaatccgggg	gcaaggccaa	aaagaagaag	tggtccaaag	gcaaagttcg	ggacaagctc	180
aataacttag	tcttggttga	caaagctacc	tatgataaac	tctgtaagga	agttcccaac	240
tataaactta	taaccccagc	tgtggtctct	gagagactga	agattcgagg	ctccctggcc	300
agggcagccc	ctcaggagct	ccttagtaaa	ggacttatca	aactgggttc	aaagcacaga	360
gctcaagtaa	tttacaccag	aaataccaag	ggtaggatg	ctccagctgc	tggtgaagat	420
gcatgaatag	gtccaccagc	ttgtacctgc	cgggcgcccg	ttcg		464

<210> 591

<211> 387

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(387)

<223> n = A,T,C or G

<400> 591

ggaagacgga	ggtcctcttt	ccttgccctaa	cgcagccatg	gctcgtggtc	ccaagaagca	60
tctgaagcgg	gtggcagctc	caaagcattg	gatgctggat	aaattgaccg	gtgtgtttgc	120
tctcgtcca	tccaccggtc	cccacaagtt	gagagagtgt	ctccccctca	tcattttcct	180
gaggaacaga	cttaagtatg	ccctgacagg	agatgaagta	aagaagattt	gcatgcagcg	240
gttcattaaa	atcgatggca	aggtccgaac	tgatataacc	taccctgctg	gattcatgga	300
tgtcatcagc	attgacaaga	cgggagagaa	tttccgtctg	atctatgaca	ccaagggctg	360
ctttgctgta	cctnggccgc	gacacgc				387

<210> 592

<211> 648

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(648)
 <223> n = A,T,C or G

<400> 592

ggtacaaaca	ttttacaaaa	aagaacatta	ccaatatcag	tggtagtaag	ggcaagctga	60
agaataaata	gactgagttt	ccgggcaatg	tctgtcctca	aagacatcca	aactgcgttc	120
aggcagctga	aacaggcttc	tttcccagtg	acaagcatat	gtggtcagta	atacaaacga	180
tggtaaatga	ggctactaca	taggcccagt	taacaaactc	ctcttctcct	cgggtaggcc	240
atgatacaag	tggaactcat	caaataattt	aaacccaagg	cgataacaac	gctatttccc	300
atctaaactc	atttaagcct	tcacaatgtc	gcaatggatt	cagttacttg	caaacgatcc	360
cgggttgtca	tacagatact	tgntttttac	acataacgct	gtgccatccc	ttccttcact	420
gncccagtcg	ggtttcctgt	tgntggaccg	aaaggggata	cattttanga	aaatgctttc	480
ttcaagacag	aaatgagaaa	gaaanggaga	accctgaggc	caggaatcta	ttaaaccctg	540
ggggtngnnc	nccaaaaggg	aagggggnaa	aggccnggaa	tttgaaaagg	ntaaaaccgn	600
ttccttttgn	gncccaggga	attagggaaa	ccttgactna	cntttggg		648

<210> 593
 <211> 625
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(625)
 <223> n = A,T,C or G

<400> 593

ggtacttaaa	atcagagtca	aaaaatgggt	ttaagtttta	atactcttaa	ttagctccct	60
gcttttatact	gtaactccac	agaagacata	gggccaccta	ggattcacag	gaaggagcag	120
ctctgattct	tacatggctg	gctccgatgc	ccccacagca	ggcctcttcc	tccccaagtt	180
tttcctctcc	atttcaaaaa	agcactatct	tatcttcaca	tccaagagct	ggttggtttg	240
gtttggtttct	ttggaaacca	ataaaaagaag	caattttttc	ctgttctttt	tactcacatc	300
tacctatcag	agcggctatt	tccttcgaca	gttcagtagc	acacaggctg	acttgccac	360
atggactcat	gaatgcagtc	attcagaccg	catattgcta	ccaaatggga	atgtgggaat	420
atgctatgca	cctcaggttg	agaaatgacc	aagaaaatca	agatctaaag	gggtgatata	480
taatataat	atataatcaat	gctattattc	ataaaaaacct	tggttagtaa	taaaaaaaaat	540
tgcttttggt	naaatattga	atattataag	ctggcttctc	atgggttgga	aaaaataagt	600
ctttntgnaa	aagccggggc	ctttt				625

<210> 594
 <211> 586
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(586)
 <223> n = A,T,C or G

<400> 594

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ggtacccaga	caaaacccgg	ccacgtgtaa	gtcagatgct	gattttgact	ccattttcaag	60
gtcaaggcca	tggtgctcaa	cttcttgaaa	cagttcatag	atactacact	gaatttccta	120
cagttcttga	tattacagcg	gaagatccat	ccaaaagcta	tgtgaaatta	cgagactttg	180
tgcttggtgaa	gctttgtcaa	gattttgccct	gtttttcccg	ggaaaaatta	atgcaaggat	240
tcaatgaaga	tatggcgata	gaggcacaac	agaagttcaa	aataaataag	caacacgcta	300
gaagggttta	tgaattctt	cgactactgg	taactgacat	gagtgatgcc	gaacaatata	360
gaagctacag	actggatatt	aaaagaagac	taattagccc	atataagaaa	aagcagagag	420
atcttgctaa	gatgagaaaa	tgtctcagac	cagaagaact	gacaaaccag	atgaacaaaa	480
tagaaataag	catgcaacat	gaacagcttg	gaananaagt	tttcanggnc	tagtggaaga	540
ataccccggc	gtggtattga	acnacttgct	caagagttaa	gaattt		586

<210> 595

<211> 613

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(613)

<223> n = A,T,C or G

<400> 595

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ttgagaaatg	tgattcttga	ctggaaaaat	agatgtgtcg	tggaggccga	atgtttgcac	120
caacccaaaac	ctggcgccgt	tggcatcgta	gagtgaacac	aacccaaaaa	cgatacgcca	180
tctgttctgc	cctggctgcc	tcagccctac	cagcactggc	catgtctaaa	ggatcatcgta	240
ttgaggaagt	tcttgaactt	cctttggtag	ttgaagataa	agttgaaggc	tacaagaaga	300
ccaaggaagc	tgttttgctc	cttaagaaac	ttaaagcctg	gaatgatata	aaaaaggtct	360
atgcctctca	gcgaatgaga	gctggcaaag	gcanaatgag	aaaccgtcgc	cgtatccagc	420
gcagggggccc	gtgctcatct	ataatgagga	tnaatgggtat	catcaaggcc	tttagaaaca	480
tcctggaaat	acctctgctt	aatggtaagc	caagcttgac	cattttgaan	ncctgttctg	540
gtggggccttt	tgggacgttc	tggatttgga	cttgaaaggc	ttttccggaa	ttnnatgaaa	600
tgncnnccgg	ccc					613

<210> 596

<211> 616

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(616)

<223> n = A,T,C or G

<400> 596

gcgtgggtcg	cggccgaggt	acaagaacac	tccttggggcg	tccttgctgt	tttgtttgtg	60
aagtttttcta	tgcccagtg	tcctgacttc	gaaacgctat	tctcacaggt	tcagctcttc	120
atcagcactt	gtaatgggga	gcacattcga	tatgcaacag	acacttttgc	tgggctttgc	180
catcagctaa	caaatgcact	tgtggaaaaga	aaacagcccc	tgcgaggaat	tggcatcctt	240
aagcaagcca	tagacaagat	gcagatgaat	acaaaccagc	tgacctcaat	acatgctgat	300
ctctgccagc	tttgtttgc	agcaaaatgc	tttaagcctg	ccttccatat	cttgacgtgg	360
atatgatgga	tatctgtaaa	gagaatggag	cctatgatgc	aaaacacttt	ttatgntact	420
attattatgg	agggatgatt	atactgggct	gaaagaactt	tgaaagactc	tctactttta	480

tgaacaggct atactacttc tgcattggcgg cagtcataatc atgtgggaac attttaaagn 540
 ntatttanng gcttgaatac ctggcaaaga cctgnccggc gccgttcaaa ggggaattca 600
 ccacttgngn gcgtnt 616

<210> 597
 <211> 631
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(631)
 <223> n = A,T,C or G

<400> 597
 accagatggc ttttcagaca gaggttggaa accatccac ttttgaggat atgcaggttc 60
 tcgtgtctag ggaaaaacag agacccaagt tcccagaagc ctggaaagaa aatagcctgg 120
 cagtgaagtc actcaaggag acaatcgaag actgttggga ccaggatgca gaggctcggc 180
 ttactgcaca gtgtgctgag gaaaggatgg ctgaacttat gatgatttgg gaaagaaaca 240
 aatctgtgag cccaacagtc aatccaatgt ctactgctat gcagaatgaa cgcaacctgt 300
 cacataatag gcgtgtgcca aaaattgggtc cttatccaga ttattcttcc tcctcatata 360
 ttgaagactc tatccatcat actgacagca tcgtgaagaa tatttcctct gagcattcta 420
 tgtccagcac acctttgact atagggggaa aaaaaccgca aattcaatta ctatgaaccg 480
 acagcaaggc acaaagctcg aatncccaag cccttgaaac aagtggtaac cagcttttca 540
 ccacancacc aaccnncaaa cnccccaggg anttacgcc aaggtaacct nggccgggaa 600
 cccncttang gggnaattcn cgnccttgg g 631

<210> 598
 <211> 630
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(630)
 <223> n = A,T,C or G

<400> 598
 cgaggtgctt cgtcttcggt ttttctcttc cttcgctaac gcctcccggc tctcgtcage 60
 ctcccgccgg ccgtctcctt aacaccgaac accatgcctt caattaagtt gcagagtctt 120
 gatggagaga tatttgaagt tgatgtggaa attgccaaac aatctgtgac tattaagacc 180
 atgttggaag atttgggaaat ggatgatgaa ggagatgatg acccagttcc tcctcctcct 240
 cctcctgaag atgatgagaa caaagaaaag cgaacagatg atatccctgt ttgggaccaa 300
 gaattcctga aagttgacca aggaacactt tttgaactca ttctgggtgc aaactactta 360
 gacatcaaag gtttgcttga tggtacatgc aagactgttg ccaatatgat caaggggaaa 420
 actcctgagg agattcgcaa gaccttcaat atcaaaaatg actttccctc tttttttgta 480
 agcaatggct ggctaagtta atgggccagg taacntttag tgacctttta aaaagtttgg 540
 ccattggnaa atnaaaccac ttgcaaaaaa gttttntgga atagaatttc cnaatatttt 600
 cctttttcat gagtgggaac tgggnaaagg 630

<210> 599
 <211> 359
 <212> DNA

<213> Homo sapiens

<400> 599

ggtacctacc	tcaggagcag	agatttgata	ttcgagtgtc	gggcttaggt	ctgctgataa	60
atctagtggg	gtatagtgtc	cggaatcggc	actgtcttgt	caacatggaa	acatcgtgtc	120
cttttgattc	ttccatctgt	agtggagaag	gggatgatag	tttaaggata	ggtggacaag	180
ttcatgtgtg	ccaggcttta	gtgcagctat	tccttgagcg	agagcgggca	gcccagctag	240
cagaaaagtaa	aacagatgag	ttgatcaaag	atgctccac	cactcagcat	gataagagtg	300
gagagtggca	agaaacaagt	ggagaaatac	agtgggtgtc	aactgaaaag	actgatggt	359

<210> 600

<211> 589

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(589)

<223> n = A,T,C or G

<400> 600

acccagggac	acaaacactg	tggaaggctg	cagggacctc	tgcctaggaa	agccagggtat	60
tgtccaaggt	ttctcccat	gtgacagtct	gaaatatggc	ctcgtaggaa	gggaaagacc	120
tgaccgtccc	ccagcccgac	acccataaag	ggtcttttgt	gaggaggatt	agtaaaagag	180
gaaggcctct	ttgcagttga	gataagagga	aggcatctgt	ctcctgctcg	tccttgggca	240
atggaatgtc	tcggtttaaa	acccgattgt	atattctatc	tactgagata	ggagaaaact	300
gccttagggc	tggagatgag	acatgctggt	ggcaatactg	ctctttaatg	cattgagatg	360
tttatgtatg	tgcacaaaaa	agcacagcgc	ctttttcttt	acctcgttta	tgatgcagag	420
acatttgttc	acatgttttc	ctgctgactc	tctcccaacta	ttaccctatt	gcctgccaca	480
tctccttttc	gaaanggtag	agataatgat	caataaatac	tgagggactn	aganactggg	540
ccgcgtaagt	cctaatatct	gaacgccagt	ccctggccca	ntttttnt		589

<210> 601

<211> 240

<212> DNA

<213> Homo sapiens

<400> 601

acatctgaaa	taccccccaa	acccagaaag	cttttcaaca	gctaggttgt	ccaagaactt	60
ggaaaattca	ccttctgatg	tcctccaaga	cagattccat	tttttataca	ccttatttgc	120
tcagacctgt	aacttcagcc	tggagtgaac	acagacacct	agttttcctc	aaactcctct	180
tgggcttttag	agagaagggtg	ctggcccttt	gagccaagca	ggttattggt	tagtagtacc	240

<210> 602

<211> 621

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(621)

<223> n = A,T,C or G

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<400> 602
ggtacctttt acatacaaga aattaaatga gagaaaaaat aactgtagtt acaccatata 60
acttacaaga atggagaatc tgcttataag tcaaaactaga attagaactt atttcttaga 120
ctgcttcata aaaactaaca taccactact ttttaattat ttatttattt gctaaagaac 180
aaaaatttaa gtatgaaaaa caaccaactg attcacccaa ctcagtaagt ttgactcacg 240
ttttctgggt caacaccaat gtcttcacaa aatttctcca tgccttcagg gcctacaaca 300
tcatcagttc ctgcatattc atagaacatc tccaagcacc ttttacttga aaaggcttct 360
tcttcagttc ttattctagt cgaatcatat tttctataca tgctatcatg tctacttttc 420
ttggcagata aatcatctcc agaagcaggt cttctctttt tccttggtgg catcacttta 480
ttaaagcagt ctgaagaact gnaagaaccg agacttcttg gtttggcgac gncttggnc 540
nggctctggg anggtcaanc ttattaangg ngngggaaaa ccttntgaan atttgcccn 600
gttganagat gaaaagtcnn g 621

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<210> 603
<211> 655
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature
<222> (1)...(655)
<223> n = A,T,C or G

```

```

<400> 603
acttataatt ggcagtggag gaagggaaca tacgctggcc tggaaacttg cacagtctca 60
tcatgtcaaa caagtgttgg ttgccccagg aaacgcaggc actgcctgct ctgaaaagat 120
ttcaaatacc gccatctcaa tcagtgaacca cactgccctt gctcaattct gcaaagagaa 180
gaaaattgaa tttgtagttg ttggaccaga agcacctctg gctgctggga ttgttgggaa 240
cctgaggtct gcaggagtgc aatgcttttg cccaacagca gaagcggctc agttagagtc 300
cagcaaaaagg ttgccaag agtttatgga cagacatgga atccaaccg cacaatggaa 360
ggctttcacc aaacctgaag aagcctgcag cttcattttg agtgcagact tccctgcttt 420
ggttgtgaaa gggcancggg cttgcaactt ggnaaaaggg tgaatggttg ccaaagaagc 480
caaagaaana agnncctgca aagcntgtan cttttgggccc gggaaccacg ctttaangggc 540
cnaaattcca agnacaactt ggccggggccc gttacctaaa ngggatccca actttngggg 600
acccaaaacn ttngggngna aatcatnngg ncnaaaantt tggtttcctt gngng 655

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<210> 604
<211> 490
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature
<222> (1)...(490)
<223> n = A,T,C or G

```

```

<400> 604
acaacacacg aattccactc taaacttgaa cgcaaagcta tgttcctctc tgctcatgg 60
cagtgggcca cagcatcctt caatctttta gttgagcgat acaactccac tagccggatg 120
ttcatatgga cgtcatcagg tcttacataa agttctgact gaatcaagtc aaaaagttaa 180
ttccatccat cttcaccttc acaatctaga agctgttcct ttagtttata aattgcagga 240
cttcttgga aaagttttgc tgctctttcg acccagtatt ttgctcttcc atcaggtaac 300
atcattttta caaagcaatt ctgcaatctt caacacaaga tcttttgtgt tgggtttaat 360

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tccactgaac	gcctgtaaca	ttnaacggn	ttctctgtgt	tttcttccat	tcataaagan	420
gacccagaaa	tctgtgagct	ttgggatccc	tctctcgac	attaaatgta	agtacctngg	480
gncgcgacca						490

<210> 605
 <211> 612
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(612)
 <223> n = A,T,C or G

<400> 605						
acagaagggt	gacgaaaatt	cttactgagc	aagaaataac	cttggtgtgt	ttactaaaat	60
ttgagaaatg	tgattcttga	ctggaaaaat	agatgtgtcg	tggaggccga	atgtttgcac	120
caacccaaaa	ctggcgccgt	tggcatcgta	gagtgaacac	aacccaaaaa	cgatacgcca	180
tctgtttctg	cctggctgcc	tcagccctac	cagcactggg	catgtctaaa	ggcatcgta	240
ttgaggaagt	tcctgaactt	cctttggtag	ttgaagataa	agttgaaggc	tacaagaaga	300
ccaaggaagc	tgttttgctc	cttaagaaac	ttaaagcctg	gaatgatatc	aaaaaggtct	360
atgcctctca	gcgaatgaga	gctggcaaa	gcaaaatgag	aaacccgtcg	ccgtatccag	420
ccgcaggggc	ccgtgcatca	tctataatga	ggataatggg	tatcatcaag	gccttcagaa	480
acatccctgg	aattactctg	cttaaatgnaa	gcaagctgac	atttttgaac	cctgcttctg	540
gngggcctgt	nggactttct	gcatttggac	tgaaantgct	tttcggaagt	ttantaantg	600
gacctnngcc	cc					612

<210> 606
 <211> 577
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n = A,T,C or G

<400> 606						
gactttgagg	caagtgtggg	ccactgtggt	ggcagtgagg	gtgggggtgt	tgggaggctg	60
cgtgccagtc	aagaagaaaa	aggtttgcac	tctcacattg	ccaggatgat	aagttccttt	120
ccttttcttt	aaagaagttg	aagtttagga	atcctttggg	gccaactggg	gtttgaaagt	180
agggacctca	gaggtttacc	tagagaacag	gtgggtttta	agggttatct	tagatgtttc	240
acaccggaag	gttttttaaac	actaaaatat	ataatttata	gttaaggcta	aaaagtatat	300
ttattgcaga	ggatgttcat	aaggccagta	tgattttataa	atgcaatctc	cccttgattt	360
aaacacacag	atacacacac	acacacacac	acacacacac	aaaccttctg	ccttttgatgt	420
tacagattta	atacagttta	tttttaaaga	tagaatcctt	ttataggtga	gaaaaaaaca	480
atctgggaag	aaaaaaccac	acaagacatt	gatcagcctg	ttngcgtttc	canangtctt	540
tgattggcag	catggtttnc	aggaaantag	gtacctc			577

<210> 607
 <211> 312
 <212> DNA
 <213> Homo sapiens

<400> 607
 ggtaccaggc cgctcaccac agtccgtggt tcagcttccc ccacgtcaat cttctctaca 60
 tacaggctgt ctgcatctgg gtgcttctcc acagtgatga ttttccccac acggatatcc 120
 agccgggatg ggatgacctc ctctggttct gaattcttgg cagggccttt ggccattggc 180
 ttctgctttg agggatctgg gtaggcagcg ctggccagtt ttttcagggc aggggtatta 240
 aacttttccc ggattggatc cagcaacttg ttcagtgcga cttcaacaga attcttcagg 300
 tctccaggat gt 312

<210> 608
 <211> 614
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(614)
 <223> n = A,T,C or G

<400> 608
 ggtgcaactt ccttcgggtcg tcccgaatcc gggttcatcc gacaccagcc gcctccacca 60
 tgccgccgaa gtctgacccc aacgagatca aagtcgtata cctgaggtgc accggaggtg 120
 aagtcgggtgc cacttctgcc ctggccccc agatcggccc cctgggtctg tctccaaaaa 180
 aagttggtga tgacattgcc aaggcaacgg gtgactggag gggcctgagg attacagtga 240
 aactgaccat tcagaacaga caggcccaga ttgaggtggt gccttctgcc tctgccctga 300
 tcatcaaagc cctcaaggaa ccaccaagag acaaagaaac agaaaaacat taaacacagt 360
 jggaatatca cttttgatga gattgtcaac attgctcgac agatgccggc accgatcctt 420
 agccagagaa ctctctggaa ccattaaaga gatctgggga ctgcccagtc agtgggctgn 480
 aatgggtgatg gcccgcatnc ttatgacttc atcgatgaca tcaacagtgg tgctgtggaa 540
 tgcnagccgg ttaanccnaa ggaaacttta atnanggtca ttgcactggn aaaaaaaaaa 600
 nnaanananaa ggnt 614

<210> 609
 <211> 609
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(609)
 <223> n = A,T,C or G

<400> 609
 ggtactgagc acccctgttg tcaagaaagt gggagtaaca tctgtaggag gttctttaac 60
 tgggtgggcca aatatataaa caactctgtt aacgttgtga cacatgagag gtataagcct 120
 agccagaaaa ataagtgatt ccagtcagg ttcactctta ctggagattc cacacacgta 180
 attgtaggaa cgacagtcac cctgcacacc tacagtctta attggcagca agaaggcatt 240
 cagtgaatgc agactggtaa tttgcatcag cttctcctga tctctctctg ttgtgcaggc 300
 tttgactctc tgtaatatagg tatgtggctt ttttaacact gcagaaaaat cagctactat 360
 tttcaaaata ttgttgggtt caggaaagtc cttacaaata taagggttctt cagcacatat 420
 tactctgatt gccaggccag gacctggaaa tggatgcctg gaaactaact cttctggaag 480
 tccaagttct cttggccaaa attctcactt catctttatg aaaatctttc agaggtctat 540
 acttttctct ctttttaact ttctgaatga ctcttgggna tttggaangg tttgatgagt 600

tcacttttnc

609

<210> 610
 <211> 254
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(254)
 <223> n = A,T,C or G

<400> 610
 accattggtg gccaatgat ttgatggtaa gggagggatc gttgacctcg tctgttatgt 60
 aaaggatgcg tagggatggg agggccgatg aggactagga tgatggcggg caggatagtt 120
 cagacggttt ctatttcctg agcgtctgag atgttagtat tagttagttt tgttgtgagt 180
 gttaggaaaa gggcatacag gactaggaag cagataagga aaatgattat gagggcgtga 240
 tcatgaaaga cctn 254

<210> 611
 <211> 687
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(687)
 <223> n = A,T,C or G

<400> 611
 ggtacaagga tgccatccat ttctataaca agtctctggc agagcaccga accccagatg 60
 tgctcaagaa atgccagcag gcagagaaaa tcctgaagga gcaagagcgg ctggcctaca 120
 taaaccccga cctggctttg gaggagaaga acaaaggcaa cgagtgtttt cagaaagggg 180
 actatcccca ggccatgaag cattatacag aagccatcaa aaggaaccgg aaagatgcca 240
 aattatacag caatcgagct gcctgctaca ccaaactcct ggagttccag ctggcactca 300
 aggactgtga ggaatgtatc cagctggagc ccgaccttca tcaagggggtt atacacggaa 360
 agccgctgca ctggaagcga tgaaggacta cacccaaaag cccatggatg tgtacctgcc 420
 cgggccggcc gctcgaaagg ggcgaaattn agcacactgg ccggccggta cttagtgga 480
 tncnancctt ggtaccaaac ntngcggnaa tcatgggcat ancnnnggtt ctngggngga 540
 aaattggtaa tnccgtttac natttcccca ccaacttccn aacccgaaa ccttnaagng 600
 gaaanccntg gggnggccta atggngggc ttactcncct taattggctt gggcttaatg 660
 ggcccccttt caatngggaa acctnnt 687

<210> 612
 <211> 673
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(673)
 <223> n = A,T,C or G

<400> 612
gactgatgtt ggtgtcctgc agcgccacgt ttcccgccac aaccaccgga acgaggatga 60
ggagaacaca ctctccgtgg actgcacacg gatctccttt gagtatgacc tccgcctggt 120
gctctaccag cactgggtccc tccatgacag cctgtgcaac accagctata ccgcagccag 180
gttcaagctg tgggtctgtgc atggacagaa gcgggtccag gagttccttg cagacatggg 240
tcttcccctg aagcaggtga agcagaagtt ccaggccatg gacatctcct tgaaggagaa 300
tttgcgggaa atgattgaag agtctgcaaa taaatttggg atgaaggaca tgccgcgtgc 360
agactttcaa cattcatttt gggttcaagc acaagtttct ggccagccga cgtggtcttt 420
ngcaccatgt ctttgatgga gagccccgan aaaggatggc tnaaggaccg aatcacttta 480
tncaggcttt tggacangcc tnttcaggag tnaccctgga caaacttgta cctttgggnc 540
ggngaacacc ncttaagggc naatttcang cacactggcg ggccgtaatt aagggaatcc 600
aacttnggna nccaancttg gggnaaanen tgggcataen ngttccctgn ggnaaatngt 660
attccctncc aat 673

<210> 613
<211> 279
<212> DNA
<213> Homo sapiens

<400> 613
ggtacaaaag gagacaatcc atccccgaaa gtcataataag atgaactctt cctgtgcaga 60
tactctgtct tttgcctcct ataagtggaa tgtctcccgg ccctcattgc tggctgactc 120
caaggatgtg atggacagca ccaccaccca gaaatactgg attgacatcc agttgcgtg 180
gggggactat gattcccacg acattgagcg ctacgcccgg gccaaagttcc tggactacac 240
caccgacaac atgagtatct acccttcgcc cacaggtgt 279

<210> 614
<211> 653
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(653)
<223> n = A,T,C or G

<400> 614
gtttccacaa acttcgtgga tcaaaacgag gtcttccagt tctgcggggtc agaagggtga 60
cccgggggtc aaatctgggt gtcggcagtc ctgcactcct tctggagggt ctaggggaga 120
attcattttct ggcccttttca ttttttagagg ctgaccgtaa ttcttgactt caggctcctc 180
catcttcaga gccagctgtg ggtagttgaa tctttttccc gtcacctcat tgaggcctcc 240
cctctcctgc ctccctccac cacttttttt tttttttgag acagggtctt gctgtgttgc 300
ccaggctgga gtgcagtggc ctgggtcatgg catcaaggct cactgcagcc tggacctcct 360
ggttcaagtg atcctcttgt ctgagtcctc tgagacaatc cccacgccc agctacatat 420
tttttgtgga tacagggtct cattctgntg cctagcttgt ctggaactcc tggggtcaag 480
ggatcttggga gccttaaccc tnctaaagtg cttgggaata taggcatgag tcaactggacc 540
ttgggnccga ccaccttaan ggccgaattt cagcacaatt ggccgggccgg tacttagggg 600
annccaactt tgggaccaac ntggngnaa tcatgggccc aactggttnc cng 653

<210> 615
<211> 676
<212> DNA
<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(676)
 <223> n = A,T,C or G

<400> 615
 acatgtgaag attttttggc agcttagcgt ggaaaccatt gatcacccctg ctctcatttc 60
 tacctgttct gtgttggcaa gggagagtgc ccaaatagagc aagatatcgc agcaaaacag 120
 cactccaggg gtgaacggaa ttagtggtat ccatacccag gcacatgcca gcggcttaca 180
 gcaggttcct cagctggtgc ctgctggccc tgggggagga ggcaaagctg tggctcccag 240
 caagcagagc aaaaagagtt cgcccatgga tcgaaacagt gacgaagtat cggcaacgcc 300
 gagagaggaa caacatggct gtgaaaaaga gcccggttga aaagcaagca gaaagcacaa 360
 gacacactgn agagagtcaa tcagctcaa gaagagaatg aacggttgga aagcaaaaat 420
 caaattgctg accnanggat taagtgtacn gaagcatgcc aacgccttag ctnatgggcc 480
 tggctnctat cagcttggga acccnaaagn accagttttt ccangaatcc ccagaccgaa 540
 ngggnccaag gggncacaag ttcgggactt gaaangggaa aaaaaacttg gancttggca 600
 aggacttggg cttncnaaat tgganccgan cccaanggat gaanaacccc ttcaagaaaa 660
 ccagcttcct ttctng 676

<210> 616
 <211> 694
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(694)
 <223> n = A,T,C or G

<400> 616
 ggtaccttct agatcttgga gttgatatga atgaaccaa tgcctatgga aatacacctc 60
 ttcattgtgc ctgctataat ggacaagatg ttgtagtga tgaacttata gactgtgggtg 120
 ctattgtgaa tcaaaaagaat gaaaaaggat ttactccttt gcactttgct gctgcatcaa 180
 cacatggagc atttgtttta gagcttctag ttggcaatgg ggccgatgtc aatatgaaga 240
 gtaaagatgg gaaaacccca ctacacatga ctgctctcca cggtagattc tcccgatcac 300
 aaaccattat ccagagtgga gctgtaatcg actgtgagga taagaatgga aatacccctt 360
 tgcacatagc aacacgggtat ggccatgaan ctgctgatca acacttctta ataccagtgg 420
 gtgctgaccc ttgcaaannc gtgggcatac cttggaatgg ttcccccttc cattttggca 480
 agcccttaaa ccggnttttt caagaattac tggcnnaaaa accttcnttc ttttanggaa 540
 ttnganattn gaaanccccc aanggaattt tngccnggac cttgggntaa catgccantt 600
 gnnacttgga agggnaattt gggaanggcc tnaaaccttt tngngnnaaa cctggggccn 660
 aacntttatt aaaangggcc caatttnggg gaan 694

<210> 617
 <211> 554
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(554)
 <223> n = A,T,C or G

<400> 617
 cgaggtaccg caaggggaaag atgaaaaatt ataaccaagc ataatatagc aaggactaac 60
 ccctatacct tctgcataat gaattaacta gaaataactt tgcaaggaga gccaaagcta 120
 agacccccga aaccagacga gctacctaag aacagctaaa agagcacacc cgtctatgta 180
 gcaaaatagt gggtagattt ataggtagag gcgacaaacc taccgagcct ggtgatagct 240
 gggtgtccaa gatagaatct tagttcaact ttaaatttgc ccacagaacc ctctaaatcc 300
 ccttgnaaat ttaactgtta gtccaaagag gaacagctct ttggacacta ggaaaaaacc 360
 ttgtagagag agtaaaaaat ttaacaccca tagtaggcct aaaaagcagc caccaattaa 420
 gaaagcgctc agactatatc tattgcgcca ggtttcaatt tctatcgcta tactttatct 480
 gggtaaaatg ggtttggtt aaggggtggt nggaagaaag gtggaatngg aactgcccgg 540
 gcnggccgct ngaa 554

<210> 618
 <211> 305
 <212> DNA
 <213> Homo sapiens

<400> 618
 acatgtgttc acaagggtta ctctcaaaa cccccagttc tcaactcatgt ccccaactca 60
 aggctagaaa acagcaagat ggagaaataa tgttctgctg cgtccccacc gtgacctgcc 120
 tggcctcccc tgtctcaggg agcaggtcac aggtcaccat ggggaattct agccccact 180
 ggggggatgt tacaacacca tgctggttat tttggcggct gtagttgtgg ggggatgtgt 240
 gtgtgcacgt gtgtgtgtgt gtgtgtgtgt gtgtgtgttc tgtgacctcc tgtccccatg 300
 gtacc 305

<210> 619
 <211> 604
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(604)
 <223> n = A,T,C or G

<400> 619
 acactctcat agtcactgaa agtaatatac actgacctgc aaaagtcaga tgggaagaca 60
 taaaggacct catctttggt tattagtggg tgaaaagaat ctccatctgt tccattaatc 120
 atattgcact tgtctgttat ccaccagtca agtgacgttt tcccattcca ttccacaatt 180
 tttgtaaagt taaggtaact gtcttctcca gttagaaaaa catagtctcc atcattagtc 240
 ccatttttct catagaatag gccaaaatag ggagagatat cgggcctgaa aacatggata 300
 agggacaaga tttcatcttt gtagccccag agcaattcgt caactgtgtg agtcacaaag 360
 agcttctgct gataggcttt caacatggcc tcgatgatct ccctgaggaa gtgcacctgg 420
 gaccactcta tgacagtcaa tacaggaata tttaatggtc taattaagtn aaattttaag 480
 ggctncaaca gattgggtct cgttcaaaac cataggcctt gttgctaaca gcaganattg 540
 gtgggttcatt atctncaaat ggaaaattng ctttggttct ggagtncttg naagggtatg 600
 gncc 604

<210> 620
 <211> 571
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(571)
 <223> n = A,T,C or G

<400> 620
 ggtactgtga acatgacttt cagatgctct ttgccccttg ctgtcatcag tgtggtgaat 60
 tcatcattgg ccgagttatc aaagccatga ataacagctg gcatccggag tgcttccgct 120
 gtgacctctg ccaggaagtt ctggcagata tcgggtttgt caagaatgct gggagacacc 180
 tgtgtcgccc ctgtcataat cgtgagaaag ccagaggcct tgggaaatac atctgccaga 240
 aatgccatgc tatcatcgat gaggagcctc tgatattcaa gaacgacccc taccatccag 300
 accatttcaa ctgcgccaac tgcgggaagg agctgactgc cgatgcacgg gaactgaaag 360
 ggggaactat actgncttcc atgccatgat aaaatggggg tcccattgng gtgcttgcca 420
 cggccatcaa ggcgctgtga cctatggcaa catgcatgtg gacatttggg gnncagtgtg 480
 aaccttntga atgcatataa gaagctgcgn ttggactatt accgtntggg ngtgtcctga 540
 tcggnntnaag ggaggctgtn taaagcgng g 571

<210> 621
 <211> 581
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(581)
 <223> n = A,T,C or G

<400> 621
 acattcgccc tgaggccag gacagtgtt tctcctggac ggacctgctg ctgaagaata 60
 attctgagct gcttaacaac ctgggcaact tcatcaacag agctgggatg tttgtgtcta 120
 agttctttgg gggctatgtg cctgagatgg tgctcaccct tgatgatcag cgcctgctgg 180
 cccatgtcac cctggagctc cagcactatc accagctact tgagaagggt cggatccggg 240
 atgccttgcg cagtatcctc accatatctc gacatggcaa ccaatatatt caggtgaatg 300
 agccctggaa gcggattaaa ggcagtgagg ctgacaggca acgggcagga acagtgactg 360
 gcttggcagt gaatatagct gccttgctct ctgcatgctt caccttacat gcccacggta 420
 gtgcccactc agcccactgc actccactca gctgagtatc ngntgacaac ttctgngacc 480
 ttggccggac acctaaggca atcaccatgg cgcgtctang gaccactcga ccacttgcca 540
 acatggcnat ggtctgngaa tgnccgtaat tccncanntc a 581

<210> 622
 <211> 644
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(644)
 <223> n = A,T,C or G

<400> 622
 actgtttacc agatctttgc agatgaggtg cttgggttcag gccagtttgg catcgtttat 60
 ggagaatttg caccatcctg ggattgtaaa cctggaatgt atgtttgaaa cccagaaacg 120

agtcttttga	gtaatggaaa	agctgcatgg	agatatgttg	gaaatgattc	tatccagtga	180
gaaaagtcgg	cttcagaacg	aattactaaa	ttcatgggtca	cacagatact	tggtgctttg	240
aggaatctgc	attttaagaa	tattgtgcac	tgtgatttaa	agccagaaaa	tggtgctgctt	300
gcatcagcag	agccatttcc	tcaggtgaag	ctgtgtgact	ttggatttgc	acgcatcatt	360
ggtgaaaagt	cattcaggag	atctgtggta	ggaacttcag	catacttacc	cctgaagtcc	420
ttcngagcca	angtacaacc	gntccctana	tatgtggnc	gtgggagtta	tcatctatgt	480
gagcctnaat	ggcacatttc	ctttaatgng	gatgaagatt	taatgnccaa	tccaaaaggc	540
tgganttatg	naccctnggc	cgacccccct	anggggaatt	ccannnnntt	ggggggccgt	600
tctaaggggn	nccancttgg	gcccacntg	ggggaancat	ggcn		644

<210> 623

<211> 662

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(662)

<223> n = A,T,C or G

<400> 623

acaaagagct	actccataaa	ttacatcttg	ccaaggtggg	agattgcatg	ggagactccg	60
gtgacaaaacc	cttaaggcgc	aataatagct	atacttccta	taccatggca	atatgtggca	120
tgcctctgga	ttcattccgt	gccaaagaag	gtgaacagaa	gggcgaagaa	atggagaagc	180
tgacatggcc	taatgcggac	tccaagaagc	gaattcgaat	ggacagttac	accagttact	240
gcaatgctgt	gtctgacctt	cactcagcat	ctgagataga	catgagtgtc	aaggcagaga	300
tgggtctagg	tgacagaaaa	ggaaagtaat	gggctctcta	gaagaatggt	atgaccagga	360
taagcctgaa	gtctctctcc	tctttcagtt	cctgcaganc	cttacagcct	gctttgggtc	420
attcgcccat	ggtggcaatg	acgtaagcca	tgccatttgg	gcctctgggt	gcttttatatt	480
tgggttatga	cccngagan	gttcttcaaa	agtggcaaca	ccaatattgg	nttctactct	540
antggngggg	gttgggatct	gnggttggtc	tgtgggggtt	ggggaaaaaa	aagttttccc	600
naccttgggg	aaaggatttg	ccnccgttac	accctttaag	ggtttngtat	ttgactngna	660
tn						662

<210> 624

<211> 682

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(682)

<223> n = A,T,C or G

<400> 624

acaccaagca	tgggactttg	aaataccaga	cagactgtgc	ccctaataat	ggttacttta	60
tgatcccttt	gtatgataag	ggggatttca	ttctgaagat	tgagcctccc	ctaggggtgga	120
gttttgagcc	gacgaccgtg	gagctccatg	tggatggagt	cagtgcacac	tgcacaaagg	180
gtggggacat	caactttgtc	ttcactgggt	tctctgtgaa	tggcaagggt	ctnagcaaag	240
ggcagccccct	gggtcctgcg	ggagttcang	tgtctctgag	aaacactggg	acccgaagca	300
aagatccagt	ncacagttac	acagnctgcg	gaaagtttgc	atTTTTTaaa	gttctgcctg	360
gagaatatna	aaatcctngt	actcatccaa	cctggggcgt	tgaaagaagc	aagcaccacn	420
gtncntgtt	accaactcca	atgccaatgn	cggncagtc	ccttcatagt	tgctggnta	480

ccaatngtgg	tcttggcntn	tgtcccnaaa	ttgattnggn	gaagcccctt	gtaangggccc	540
taaagttttn	tnntcttttt	cttctttant	ttcctnnang	aaggaanncc	ttgggttnca	600
ntggntnacc	tgngcctggg	gttccaancc	nntaccnan	nntcttgggg	tatttngcct	660
acccggtntc	nnaaaaaanat	gg				682

<210> 625
 <211> 502
 <212> DNA
 <213> Homo sapiens

<400> 625						
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tctcaatgag	agagtcctcg	tcggttccca	gccccttcat	ggaagctttt	agctcagagg	120
cgtcatactg	agcagggtgc	ttcaataggc	ccaaaatcac	cgtctccagg	tggccagata	180
aggctgactt	cagtgcctgat	gcaagttcct	ttttggtcct	tctctggtag	gcgaaggcaa	240
tatcctgtct	ctgtgcattg	ctgcggttgg	tcaaaatgtt	gacaatgggtg	acctcatcca	300
cacctttggg	cttgatggct	gtttcaatgt	tcaaagcatc	ccgctcagca	tcaaagttag	360
tataggcttt	gacagaccca	tatgcacttg	gggggtgtag	aagtgatcac	cctccaagct	420
gagcttgcac	aggaatttcg	tgaacagtag	acattttgaa	ggaactgggc	ccgtgcgccc	480
aagagctgaa	aaccgtccca	cc				502

<210> 626
 <211> 935
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (935)
 <223> n = A,T,C or G

<400> 626						
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gggaaacctc	taaggccgca	cgggtgggcc	acggagctag	cacgtgggcg	ggactgaagg	120
ctagatgctg	ggattgaggt	ggggaactag	agatgactct	aaggcaggaa	catctgtacc	180
ttcgggcccgc	ganccacgcc	taagggccga	aattcagcac	actggccggg	cccgttacct	240
aagtgggaat	cccgaagctt	cgggtaccca	aagccttttg	gccgtaaaaat	caattgggtc	300
caattaagcc	ttggnttttc	ccttgggggg	tggnaaaaat	ttgggtttta	ttcccggctt	360
tcaaccaaana	ttttcccaac	canccaaacc	antttanccn	aaaaccccn	gggaaaaggc	420
cnttttaaaa	aggttggtta	aaaaaggncc	ccttnggggg	ggttngggcc	cttaaaattg	480
gaaanttttg	aaacccttna	aacnnttnaa	nccattttta	aaattttggc	ccgttttggc	540
cggcctttta	aactttgggc	cccnggttt	tttttcccaa	agttcccggg	ggaaaaaanc	600
cttgggtnc	nttggnccca	aacnnttggc	cantttnaaa	ttggnaaatt	cnggggcncn	660
aaacggcccc	ccgggggnna	aaaaaaggcc	cnggggtttg	gccggtaant	tnggggcccc	720
cttttttttc	ccggcttttc	cctttgggtt	tnaacttgga	acttcnnttt	tgggncnttg	780
gggncntttt	cggggttttn	cggncaaaac	cggggatntc	aagntttanc	ttcaaaaggg	840
ccgggaaata	ncnggggttt	ccccngaaa	tccgggggnn	aaacccccgg	gaaaaaacct	900
ttttggacca	aaaggccnc	naaanggcc	ggaan			935

<210> 627
 <211> 680
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(680)
 <223> n = A,T,C or G

<400> 627
 ggtaccacaa ctcccaggat tttcctggat caaaccttgt atctcttctg caagtattgt 60
 gtatattggt ctgagagacg tggaccctcc tgaacatttt attttaaaga actatgatat 120
 ccagtatttt tccatgagag atattgatcg acttggtatc cagaagggtca tggaacgaac 180
 atttgatctg ctgattggca agagacaaaag accaatccat ttgagttttg atattgatgc 240
 atttgaccct acactgactc cagccacagg aactcctgtt gtcggggggac taacctatcg 300
 agaaggcatg tatattgctg aggaaatata caatacaggg ttgctatcag cactggatct 360
 tggtgaaagt caatcctnag ttggccacct nagaggaaga ngccaagact acagctaacc 420
 tggcagtaga tngngantgct tcaagctttt gggcagacca ganaaaggan ggcntattgg 480
 ctattgaccc actttctant tccaagttan cccgaaggaa tccgaaaatc nagcccctgt 540
 gganaaattt tgggggaaact tggcncctgn ctggtttacc aacaggggct ttcccnaaat 600
 ttttanggcc tttngggggn ttnanngaaa ccctaaaggg gttnnnctggg gccaaaaccg 660
 gccttaanng ggnaaacttt 680

<210> 628
 <211> 637
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(637)
 <223> n = A,T,C or G

<400> 628
 acttgtaggg tggagggtgtc ggtcaaagac cttctttatg atatcaagaa atagacatgt 60
 aacaaccatg aggattatgg caaaccaagc agaaccactt gacaggagct gaataaacac 120
 aaaatacata ttctggggagc ccaaaaatgg ccagagaatc cctccataaa acaaggaaaa 180
 tacaataata aatataatag atcccagggt aacgagatgg ttgatccaag tccaaaaatg 240
 agtttccaga gccatcttta ctgtgactgt aataaccatg actgtgaaga ccaaagtgcc 300
 aaatgtccag ttccaaaca tctggcattt ccaagcagag atgtatcttt ccctattagt 360
 aaataggatc naaaaagaaa ataaaggcat gactgaaccc aggatggtcc aataaagaaa 420
 tggtttaata cttaagaagg cggttttact aatggctcga taaagggtggc ttaatttggn 480
 acacatgaag gnctacatgc ttgttccaaa agactntttt tcnaaattgg tngggaagta 540
 aaccaatttt gggttaaagtc agggnccttg gccggaccen cttanggcga attccnnccn 600
 ctggggggccg tcttagggga ncaacttggg cccaact 637

<210> 629
 <211> 446
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(446)
 <223> n = A,T,C or G

<400> 629
 acttctcatg tccatgggta atgaaaggca gccatttgtt ttgcgctgtg ctgttctcta 60
 ttgtttccag tgtttcttgt ataaaaacca aaaaggacaa ggagaaatcg tgtcaacact 120
 ttaccttctt accattgatg caacaggtaa ttcagtttca gctggccagt tattatgtgg 180
 aggtttgttt tctactgatt cactttcaaa ctgggtgtgct gctgtggccc ttgcccatgc 240
 gttgcaagaa aatgccaccc agaaagaaca gttgctcagg gttcaacttg ctacaagtat 300
 tggcaaccct ncagtttctt tacttcaaca gtgcaccaat attctttcac aggggtgataa 360
 agatcgacag acggggaaac naaatacnaa ccaagaagtg gattattaat ggtgctttgg 420
 accttggnccg ngancacctt anggcc 446

<210> 630

<211> 635

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(635)

<223> n = A,T,C or G

<400> 630
 actagatatt gtgcctgcaa gtcataaaaa aaaaaaaaaa aaaagaaaaa aatgaaagaa 60
 tgcctttccc cttcagacaa aagaattact tttttcattt ttcttaaaaa aagaggaaaa 120
 gttataacac gaaacctaaa ttgacttgca aaggaatacc atgtaacaaa tggcttgaag 180
 tagtctatca aaaaattggg gagattttta tttaatagt agtcagcaag gcattttttg 240
 ttgttttaaa aaaatctcat ttccttacag aaacagtttt tagtttttaa tgaacttgta 300
 aacnaaaaaag ctcccatttc aaaataaaaa cnaaatccca gatcatatta atgnntacng 360
 ggggtacctt tatctaagca acatacntac ctgttcagtt gtaaganggt aactaaattt 420
 ctgngacca natgcntttt ttttaatacc cngaacnttn ttgaggtaat gcnnaatcct 480
 aangggaaaac tagnnngnccc taagntttct taagcnttcc tttaaaagcn gggaattnta 540
 gccccattaa ccggccnagn tttntatgc ctaaancccg gaantttggn gntnccatta 600
 atgggttgna acaaaanccc ccntttnaaa ngttt 635

<210> 631

<211> 694

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(694)

<223> n = A,T,C or G

<400> 631
 actcatctta tactgaaaga acgtgggtggc tctaaatatg aagctgcaaa gaagtggaaat 60
 ttacctgccg ttactatagc ttggctgttg gagactgcta gaacgggaaa gagagcagac 120
 gaaagccatt ttctgattga aaattcaact aaagaagaac gaagtttgga aacagaaata 180
 acaaatggaa tcaatctaaa ttcagatact gcagagcatc ctggcacacg cctgcaaact 240
 cacagaaaaa cccgtcggtta cacctttaga tatgaaccgc tttcagagta aagctttccg 300
 tgctgnggct nacaacatgc cagacaggtc gcaacctccc agcagtagga caaccacttn 360
 agaaggagcc ctcggtacac ctggatacac cattcaaaat tctgntccan ggccaactct 420
 ttaagccttt ctttgatgtg aaagatgccc tttcagnctt tggnaacttc cagaacgttc 480
 caanccacn gaaaaaggga aacccggtan ccttngccgg gaacccccct taaggggcca 540

aattccannn	cacttggggg	gnccgttnt	aaaggggatc	ccaaacttng	ggncccaaan	600
nttgggggga	aancangggg	ccanaaanng	gntcccctgg	gggnaaaaat	ggntatnccg	660
gttcnaaaan	ttcccccccn	aanatttngg	ggcn			694

<210> 632
 <211> 252
 <212> DNA
 <213> Homo sapiens

<400> 632						
acggccatct	tccagctgct	tgccctgcaa	gatgagcctc	tgctggctcg	ggggaatgcc	60
ttccttatcc	tggatcttgg	ccttcacatt	ttcgatgggt	tcactgggct	ccacctcaag	120
ggatgatggc	ttgccggtaa	gggttttcac	gaagatctgc	attttgacct	gttagcggat	180
accaggatcc	tgccaatcac	caaccacgtc	caccacacag	gacacaaaca	agctcaccca	240
acaaagccaa	cc					252

<210> 633
 <211> 631
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(631)
 <223> n = A,T,C or G

<400> 633						
ggtactgttg	attcaacaac	aaaccttaat	gggtgatgag	cttttgcata	ccaatatgaa	60
tttgtcagca	cttctgaaaa	ctggccatca	tttttcaa	tcacaatttg	ctggatgtca	120
gggaacaata	ggaagaagaa	tgagcgtcaa	ttttcatgtc	ttcctttgct	tcttcactgg	180
ccttccatag	aagtagtcag	aaaaaaacaa	agcaccatca	accacacttc	acaaacaatt	240
catgttgccc	taagctttgc	tcaacattca	tatgacagaa	gatagaataa	tgaaaaggaa	300
ctgctggcat	cactttcccc	ataatattac	ataaaaaatg	acagcacatt	aaataaacat	360
tctgntatta	atcattaaat	atattaacac	caaaaaatcat	gtataaaaatt	aggaaataaa	420
tgtcctgccc	ggccggncgc	tcaaggccaa	atncagnnac	tggcgggcgg	tctagtggat	480
ccnactcgga	ccaacttggc	gtaacatngn	catactgggt	cctgggggaa	atggtaatcc	540
nttacaantc	ncacactnac	anccggaanc	taaggggtaa	acttgggtgc	ctaagaggng	600
nctacntnca	ttaatgngtg	gcnctttgcc	c			631

<210> 634
 <211> 561
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(561)
 <223> n = A,T,C or G

<400> 634						
gtgaaattgg	tgagtttgg	ggtgatttcc	cggtgcctgc	aatgaactcc	tggtgaaatg	60
taggcgaggt	tggaaagtag	ctgggacaga	caggagattt	cctgaagttt	ggagataaac	120
acgtggtaga	gactggggag	taacacagtg	aaagtgggga	gcttgggtgg	gatccctggg	180

atcctggaaa	tgactggggc	tgaaatgtgg	gcgtgggttg	agagtagctg	ggacagacag	240
gaggggtttgt	aagggctggt	ggtgaagacg	tgagagagac	tggcgaggat	ctcactgagg	300
tctctgactt	tctaggtgtt	tctgggggtgt	gggagacata	caacagctga	aaactggaca	360
tagttggaca	gcactggggac	agaaaggaga	tcgtgatggg	tgggggtgac	tgtctattgt	420
gccaacagan	taccaaagt	atatcagacc	gtttgctttc	nttgaatggc	ctctggctnt	480
caaaagcgna	tggtangaca	ctcagagtat	tctnctaagc	nttgataata	cactgnttat	540
nctgcntgtg	tctanctgcn	c				561

<210> 635

<211> 630

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(630)

<223> n = A,T,C or G

<400> 635

accgaggctg	ctaaagctgc	cagtcacaac	ccagcatgtc	aactgggttcc	tcatgctctg	60
tttgggtgtg	aaattcacat	gtgccctgac	actgaggaag	caattgctta	aatcactttt	120
ccaataacag	ctgataaaat	atthtgcagg	tttgtcatgc	aaggttttatt	tattaggtgg	180
ctattcaaag	tttgtatagc	aaccacttaa	gcagaactaa	attaatattc	actgagcact	240
gtaacgatgg	aagagggctt	ttcctaaggg	ttgggttggg	agttgtgctt	ctgtgaaatt	300
aacatctctc	actcattgcc	aagattctct	gcttaaaaat	attagttttc	tgtgctgggtg	360
ccaaaatagc	aatttaagcn	aatgtagtgc	cagaatgaca	catgaacctn	ggactnaggg	420
aacagttnc	tgctgnggag	taccttgggc	gngaacacgc	ttanggcgaa	ttccacacac	480
tgcgggcgta	ctaanggatc	caactnggna	ccancttggc	gaatcatggc	atactgggtc	540
ctgggggaaa	tggtatccgt	tacaatcn	cacntaccag	ccggaacct	annngnaaac	600
tgggggccta	atggngacta	cntcattant				630

<210> 636

<211> 640

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(640)

<223> n = A,T,C or G

<400> 636

actcctattg	ccgccagtgg	ggcctgtgga	atgagtgtgc	atggaggccc	tcctgtgctg	60
ggggaatgag	cccagagaa	agcgaagtag	cttgctccct	gtgtccacct	gtgggtgtag	120
ccaggtatgg	ctctgcaccc	ctctgccctc	attactgggc	cttagtgggc	cagggctgcc	180
ctgagaagct	gtccaggcc	tgacgcagga	gtggtgcaga	cagaagtctc	ctcaattttt	240
gtctcagaag	tgaaaatctt	ggaaacctg	caaacagaac	agggcatgt	ttgcaggggt	300
gacggccctc	atctatgagg	aaagggtttg	gatcttgaat	gtgggtctcag	gatatcctta	360
tcaganctta	nggtgggtgc	tcanaataag	gcangcattt	gangaaaaat	cttgggttct	420
ctttacagt	cccacttctt	acacaccctt	gaggcaagga	atgcttgctt	acaagtacct	480
tgggcgggaa	cacgcttang	gccaaattca	acacacttgc	cggccgtact	aaagggatcc	540
ancttnggan	ccaacttggn	ggaaacatgg	cnaaatggtt	ccntggggaa	atgnaatccg	600
ttcaattccc	nnaantntca	accggaacct	taagggtaan			640

<210> 637
 <211> 470
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(470)
 <223> n = A,T,C or G

<400> 637
 acctgggtgac cttgaatgtg attaggactg ggagctccgt gaggccagag acctatgttc 60
 atttagccta cataaaagac actcaataaa tagctggtaa aataacaaat gaataaatac 120
 atatcatcaa ggggttgggt cagtagacag cagtgcccaa gctggcatcc gtcaggaagt 180
 gtgggccttt gtgttttgat gctacacatg tctatggagg gccacttctt ctgtaagtct 240
 gtggggcctc agcataccca ataggcagca agtttcagta tttcccagtt gtatgtcctc 300
 atggtggggc tatgtctccc ccaccacgtc ccctctcatc aggctagact ttaacatcca 360
 tcaatcatgt cttgagtctt gctccttctt cttggcttan tcatgtgact acngatcaan 420
 atcntggcct aatggtttaa gtgtncang taccttnggc cgggcccacg 470

<210> 638
 <211> 391
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(391)
 <223> n = A,T,C or G

<400> 638
 actggaacat caagttaaata acaaatactc agaactaacc actgtccaac aacagctaata 60
 tagggagacg ctcatatcat ggctgcaagc tcagatgctg aatccccaac cagagaagac 120
 ctttatacga aataaagccg cccaagtctt cgccttgctt tttgttacag agtatctcac 180
 taagtggccc aagttttttt ttgacattct ctcagtagtg gacctaaatc caagggggagt 240
 agatctctac ctgcgaatcc tcatggctat tgattcagag ttggtggatc gtgatgtggt 300
 gcatacatca gaggaggctc gtaggaatac tctcataaaa gataccatga gggaacagtg 360
 cattccaaat ctggtggaat catggnacct n 391

<210> 639
 <211> 329
 <212> DNA
 <213> Homo sapiens

<400> 639
 acatgctgac ccaccaggaa ctagcctccg atggggagat tgaaactaaa ctaattaagg 60
 gtgatattta taaaacaagg ggtggtggac aatctgttca gtttactgat attgagactt 120
 taaagcaaga atcaccaaat ggtagtcgaa aacgaagatc ttccacagta gcacctgcc 180
 aaccagatgg tgcagagtct gaatggaccg atgtagaaac aaggtgttct gtggctgtgg 240
 agatgagagc aggatcccag ctgggacctg gatatcagca tcacgcacaa cccaagcgca 300
 aaaagccatg aactgacagt cccagtacc 329

<210> 640
 <211> 764
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(764)
 <223> n = A,T,C or G

<400> 640

gcgcccgagg	tactttcacca	tcaactgactc	catggacttg	atcagccgcc	gctggatgta	60
tccagtctca	gcagtcttga	cagccgtgtc	aatgagcccc	tcacgacccc	ccatggcggtg	120
gaaaaagaac	tcagtgggtg	tgaggccggc	taggtaggag	ttctccacaa	agccacggct	180
ctcaggcccc	tagtcatcct	tgatgaagtg	aggcagagtc	cggtgcttga	agccaaatgg	240
aatccgcttg	ccctcgacgt	tctgctgtcc	aacgacagcg	atgacctggg	agatgttaat	300
cttggaacct	ttagctccgg	acacgaccat	agacttgaag	ttgttgnatt	cagacaggga	360
tttctgaagc	agaaggaacc	agtcttgggt	tgggcattcg	gtaanaatgc	gggtcacctg	420
aatcttcaaa	acgtctggnc	cgcaaaatgg	ttccccctggg	gggtggggct	tccancntta	480
attggtgggg	gngccctttn	ttggaaggaa	ccctctaatt	aacggtcctt	ggctttgggc	540
ctttccttaa	ataaggggtn	ctngnaaagg	gccctnnggn	aaaggncntt	aaaaaaatcc	600
nccaatnggg	agnncccccc	aangggccca	atnngtnttg	gancctttaa	aannccccgg	660
ggaaaaaacc	ttttngncaa	aaacccccnt	ttggggncct	ttttaaanaa	aacccttggg	720
aatgggggaa	ttntntnncc	cccaaaanag	gtttnaaaac	ccgg		764

<210> 641
 <211> 540
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(540)
 <223> n = A,T,C or G

<400> 641

ggtacagtag	ccatgaacta	catacagtga	cgcctctaga	aacgtgggta	gtgcaactga	60
ggaaggaatt	tttaattcta	tgtgatttta	attggcttaa	ctttaaacag	ccgcatgtgg	120
ttactgtatt	ggatagcaca	gccctagagc	ctgaagaaag	caaaccacaa	aacaccagct	180
gggtcccaaa	cagaaggcag	aaagggtaga	accatccacc	tcaactattc	cagccccatc	240
agaaggcacc	aggaacaggg	caagagaaaa	aggcaaaaac	ccaccagacc	catgaaaatt	300
cactcctcaa	ccaccagca	catcaaactg	gaacaccaca	ctatttcctg	aaaaaatata	360
ttattatttt	ctagaccaag	gagatatata	tatatagaac	cagcacaatt	ccacatcctc	420
atatatttgg	actgtaaaaa	acttgttcgc	aantttttta	agacantnaa	ggcagctagc	480
gggtaagtaa	aaactgggag	gtatgaaaca	gagaaggaga	gctttantta	tnaaaaaaaaa	540

<210> 642
 <211> 608
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(608)

<223> n = A,T,C or G

<400> 642

ggtactagt	agaagaggga	atatgcattg	cagttcagca	aagccggaat	tctgtgttga	60
acagatgtct	gtctccctag	tgtgtgactc	acaccttggt	gctgccttca	gagcgccacc	120
tccagatcag	atgggggacac	acaacccctg	gatatgtttc	attgtcagat	tttgtgcttg	180
attttaagaa	tgggaattgtg	ggtatctttc	ctttttttta	atgtatctta	actgttgctt	240
gtcagtgttt	acaaactagt	gcgttgacgg	caccgtgtcc	aagttttttag	aacccttggt	300
agccagaccg	aggtgtcctg	gtcaccgttt	caccatcatg	ctttgatgtt	cccctgtctt	360
tcctctctct	gctctcaaga	caaagggttaa	ttaaggacna	agatgaagtc	actgtaaact	420
aatctggcat	tgggtttttac	cttccttttc	tttttcagtg	cagaaaaatta	aaagttangt	480
attaaagcac	ccgtaaaaaa	aaataactnt	antacaaaana	aaagcttgtn	caagctttnt	540
ttttttntnn	tttttttttt	ttatttcccc	ggncaaaaaa	gttttttnan	tcaaantcaa	600
gggttnan						608

<210> 643

<211> 669

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(669)

<223> n = A,T,C or G

<400> 643

acagagtcac	ttacatagat	tatgttgtgc	tttgtgttta	ttctccacac	tttcagtcca	60
tattctgtcc	tgtatatgtt	tcccattttt	ccaggcattt	tagttccagg	ccagactctg	120
ccaatatcac	cagttgcaac	agctccagg	ctcctgtggg	ttttcgtttg	accatgcgta	180
gcaggctggc	ctttaaatcc	ccatcttttc	atgacacctt	gaaaaccttt	accaatagtt	240
ttggctgtga	catccacata	ctgtcctgga	cgaaagttag	cagcataaag	aggagtgcct	300
ggtttaattg	cagcattatc	tgttatatta	aagatttttaa	ctgtctgttt	cggcggcaat	360
ccaagttccc	ggtaaaattc	caatatggat	gtagctttac	gaaaacgtga	tcagggttttc	420
cttctacaga	caggggttgcc	atttttcatt	acaggtttcc	ttttgacgta	tattttaaga	480
catgacagtc	ttgnacacta	gaattatgg	ttaagtttcc	tttggnatta	agagatatat	540
aaccctttca	aaacaatctg	gtccttaaaa	aatntcaata	atggaatgaa	ttttcttaaa	600
aaaggggaga	atccaccnnt	gcacctgctt	tggnnntaan	aaaatatggg	taaacattta	660
cttcctntnn						669

<210> 644

<211> 572

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(572)

<223> n = A,T,C or G

<400> 644

acaagctttt	tttttttttt	tttttttttt	tttttttttc	atattcacta	nttgngacat	60
ntaactgtct	aangatttct	tgaatacggt	tttcaatttg	ancctngtca	ccttttcctt	120

ttaanagcat	ggcatcgctt	ttggncacaa	ngacctntcc	aacttttcct	aagtcattgag	180
gctgaacgct	ttcaanattc	aggggtcaatc	cctntttctcc	aaacacctac	aaaaagagtt	240
aaacgtaaac	ctgtttgtagg	ttacagtttn	tgccattata	ccaagttnat	taatacncca	300
tgcaananaa	tcatcaaaat	acttttatttc	tttgaaatga	gagattttta	natcactgtt	360
agtccanaac	aagacttgag	tatagtctnt	ttcactgnat	ttccaaattc	tcaattttca	420
caactggggg	aattattacc	agcnttactt	gnnaaaaaaa	cnttcnaagg	tcacacttac	480
tggaanagc	caggacaana	ncataggccn	ttgactntta	agtcctanaa	tccttggnna	540
catacncttt	tacctttnaa	actgnngctt	gg			572

<210> 645

<211> 690

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(690)

<223> n = A,T,C or G

<400> 645

ttgtgagacc	ctcttcattc	tggtgttgct	cttgaaccaa	cagcatcccc	tggaacgccc	60
caagcaagac	caaggcagat	actatgaggc	aggcagcaca	gggcccacaa	caagaattgg	120
tgcaagcgaa	tcagggctgt	gggagaggcc	ctatgtattc	cggattccca	gggcttgctc	180
taattcttgt	cgtctctgct	gcaccttgga	gtagaagtat	cggcacacag	cctcctgagc	240
ccagggctgg	aagtagaact	cagctcggcg	ctcctcctct	gggttaccac	ccacatcagt	300
cattgtcttg	aggccctgct	actgggactg	aagccagtca	ttgatgaaac	cctgagggtc	360
tctggccaaa	cttaacatga	actcccgtcg	agtcttcagc	tggttgatgg	gtttctattg	420
gctcatggat	cttggtggct	aaagtaccaa	tcttctgggt	gcccggcant	gggacagcag	480
aaaaagaaat	catcttgagg	ctttcaagg	ggcattcact	ttnaccatca	atggcataac	540
aagctggcct	ttttctnaac	attcgggtca	acactgatga	cattgaataa	nganaatagg	600
ttntggnggc	attaaccang	natggaaccn	cttagggact	ttgaaactta	tcnntgagac	660
ttaananttn	tgnggacctt	gccgaacncc				690

<210> 646

<211> 770

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(770)

<223> n = A,T,C or G

<400> 646

cgaggtacat	tccgctcacg	gatctcagct	tccagatggg	ggatgaactg	gaggcagtg	60
ccaacatccc	cctgggtgccc	gatgaggagc	tggaagcgtt	gaagatcaag	atctcccaga	120
tcaagagtga	catccagaga	gagaagagg	cgaacaagg	cagcaaggct	acggagaggc	180
tgaagaagaa	gctgtcggag	caggagtcac	tgctgtgct	tatgtctccc	agcatggcct	240
tcaggggtga	cagccgcaac	ggcaagagtt	acacgttcct	gatctcctct	gactatgagc	300
gtgcagagt	gaggggagaa	catccgggag	cagcaagaaa	gaagtgtttc	anaaagcttt	360
ctcccttgac	atcccgtgga	gcttgcanaa	tgccctgacc	aacttcgtgt	tggtggaaac	420
ttccagaact	tgtncacaag	catttcccgc	ttgacccatt	caatttaagg	gaagaatgaa	480
tgaagtcttc	cnggggcttt	ttattggggg	tttctggaat	ggtcattcan	tccacttnaa	540

gcccnccttgg	gaattttnaag	cccagaggttt	caaaatcttg	tanccttggc	ccngggccgg	600
gccggttcca	aaggggcgaa	atttccagcn	cacttgggng	ggccggtact	tannggggat	660
cccaacttcg	gnccccaacc	ttggnggnaa	ancatngggc	ctancnggt	tcncgggng	720
gaaaatggta	ttncggttcc	aatttcccc	cannttttna	accggagctt		770

<210> 647

<211> 454

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(454)

<223> n = A,T,C or G

<400> 647

acttggaaatc	ctccaggaag	ggcttcagga	cctgggttggg	gaagaccttc	atcaggatct	60
tgtgtttccg	cagctggtgt	cgcataagaa	gcttgtcctc	tgcactcaga	gccacattct	120
ggcagacggc	tatcattcgg	ttgtcctgga	aaactgctgc	tatctcccgg	cggagaagcc	180
tgatgaggcc	tatctcctcc	tgtggggggc	tgggaggaga	tggcacgtat	cttccaagta	240
tgttctgaaa	attaaacagg	gtaacctatt	tttgatgtta	tttcaaactg	ctatattcat	300
ctatgtctag	ttaaaaacaa	tttttggttt	attcacttac	ataatgttct	tatagtgata	360
ttttttccac	ttattccana	agtgttaggt	gattattcta	cacttcttgn	gcccattcta	420
tggagaataa	agatggtcct	nggccgcgac	cacc			454

<210> 648

<211> 532

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(532)

<223> n = A,T,C or G

<400> 648

ggtacatgtg	ggagaaaaaac	ttaagtgtga	tgagtgtggt	aaggaattca	gtcagggcgc	60
tcacttacag	acccatcaga	aagtccacgt	gatagagaaa	ccatacaaat	gtaagcaatg	120
tgggaaaggt	ttcagtcgta	gatcagcact	taatgttcat	tgcaagggtcc	acacggcaga	180
gaaaccttat	aattgtgagg	agtgtgggag	ggccttcagt	caggcctctc	atcttcagga	240
ccatcagaga	ctccacactg	gggagaagcc	attcaaatgt	gatgcatgtg	gtaagagctt	300
cagtcggaat	tcacatcttc	aatcccatca	aagagttcat	acaggagaga	aaccatacaa	360
atgtgaggag	tgttgtaagg	gcttcatttg	tagctcaaat	ctttacattc	atcagagagt	420
ccacacagga	gaaaaaccct	ataaatgtga	ggaatgtggt	aaaggcttta	gtcggncctc	480
aagtcttcag	gcccattcagg	gagttcacac	tggagagaag	tcatacatat	gt	532

<210> 649

<211> 493

<212> DNA

<213> Homo sapiens

<400> 649

ggtacaaaat	tgttgggaatt	tagctaatag	aaaaacatag	taaatattta	caaaaacggt	60
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PCT/IB99/01062

gataacatta	ctcaagtcac	acacatatataa	caatgtagac	aggtcttaac	aaagttttaca	120
aattgaaatt	atggagattt	cccaaaatga	atctaatagc	tcattgctga	gcatgggttat	180
caatataaca	tttaagatct	tggatcaaat	gttggtcccg	agtcttctgc	aatccagtc	240
tcttagaaat	tggtttctct	ctttgggaga	ttcagactca	gaggcagcca	gaggggacag	300
gtcaagagct	gaaataatca	cataactact	ctaattttct	tcattctatt	gactgtgtca	360
agttatagac	acagccaaaag	tgtttttctt	ctgcctctga	tgatttgaga	agatgaagaa	420
catgagcaat	ttctcattgc	ttaaagaaaa	acttggcaca	taagaggctg	agtgtagtag	480
agtatctgtc	ctg					493

<210> 650

<211> 693

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(693)

<223> n = A,T,C or G

<400> 650

gagacttttg	atccttctctg	aggacgtgga	gaaaacttgc	tgctgagaag	gacattttga	60
agggttttgtt	ggctgaaaaa	gctgtttctg	gaatcacccc	tagatctttc	ttgaagactt	120
gaattagatt	acagcgatgg	ggacacagaa	ggtcacccca	gctctgatat	ttgccatcac	180
agttgctaca	atcgggtctt	tccaatttgg	ctacaacact	gggggtcatca	atgctcctga	240
gaagatcata	aaggaattta	tcaataaaaac	tttgacggac	aagggaatg	ccccaccctc	300
tgagggtgctg	ctcacgtctc	tctggncctt	ggctgtggcc	atattttccc	nccgggggat	360
gaacggnttc	tttttcccg	gactctttcg	caaccnctt	ggcaggcccc	attcaatgct	420
gaatggcaac	ctggtnctg	cactgggtggc	tgctttattg	ggactgggtn	aaggaactta	480
ntccggttgn	aatgcttgat	nccgggncct	ttnggtaatt	gggcnttttn	tgnggactnt	540
tggncaaggt	ttgggnccca	tgtanccttg	ggccggnaac	acccttangg	gcnaanttcc	600
gcncacttgg	ccggggcgta	ctanagggaa	tcccaacttg	gnacccaacn	ttggggnaaa	660
catnggcana	actgggttccc	gggggggaaaa	tgg			693

<210> 651

<211> 678

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(678)

<223> n = A,T,C or G

<400> 651

ggtacgaagt	ttgttaccac	agtagagata	atttagtaga	aaaatgcttt	gaggcttcag	60
tatttgtaag	attttgcatt	agccagatgc	taggttggtg	aaggcatttc	agtgttgata	120
ataacctgag	cagacttctt	tacaaatggg	atctgtttct	atatgtgtat	atgccactt	180
accattcaga	gagactggtc	tttctctttg	tcttccctca	cattgctgtg	tcagttctac	240
acctagtctt	ttcagcactt	agcaaattca	aattttgatt	tttttgtcag	cttagttcac	300
tttaaggcat	attggcatgg	tgtgtgaaag	tgatgttttg	ccccagtatt	gaggactttt	360
agatccnaat	aatgactcat	taaatataat	tatgttttaa	gtataacctga	atctctggta	420
gcttaaaaatg	ttaattctca	ggaatgattt	tctcacactt	ttgggggtggc	taataataaa	480
agcactgggt	tattctcaaa	actccttttt	tcaaaattag	ggagagagcn	naagtggaca	540

ttttatgtga	acccctttgn	aaanatgggg	gntngantgc	ngagaaacca	atggagtttt	600
ngntgcnaaa	agggttttttc	ccgnaangta	aaattggaat	aantggcnat	tgaggaccct	660
tgnnctgccc	ggcgccnn					678

<210> 652
 <211> 676
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(676)
 <223> n = A,T,C or G

<400> 652						
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agacaaccta	catgacatgt	ttttcttaaa	aacaatgcct	ccactccaaa	taaatcacag	120
tcaaaataaa	tgaagagctc	aagatgacat	cagtcccat	tgtcttaagt	cctgggtgtg	180
tgtggatgac	aagcagaagc	cagttatgat	gacagggtat	agatccaaaa	taattgccac	240
atttggttaac	atttttccat	ttctaaacca	tccttaaaga	aaatcatata	tggggtcaca	300
ccatcctcac	ggtagtccaa	tagagcaacc	atgccatctg	gattcatgtt	ttcaccaata	360
aagaactggt	aagtttttga	aattagcaag	ggatgtgctt	gatttggtct	gcaaccctg	420
gcataaaaag	gtttactctt	tctnggctct	gggtctttaag	gttncctttg	aatggattca	480
tgtaaccttt	gatgtacctt	ggcccgcccg	gccaagggac	ntgtaaaagn	gccccaatcc	540
acccganaaa	aaataagggg	tttnttcgcg	gnttanganc	tcctttggac	cttttttaan	600
cttgccctgnn	ggaaattaat	ctggccnttt	acctnggana	atagaaaata	ntttttcccg	660
naaccttgaa	cttcnn					676

<210> 653
 <211> 468
 <212> DNA
 <213> Homo sapiens

<400> 653						
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acggaggcac	acttaacaag	aaagcatatg	aactcgcttt	atacctgagg	aggtctgatg	120
tgtaagcagc	ctctcccat	ctacctagca	actgtcttca	tcaacaaccc	taattatggt	180
cacaatgcta	ccaaactgta	gatggtagct	aatttttctt	tacctatttt	ctaattgtcat	240
gattcctgtt	tgcccaatgg	atcatttgta	tggttaaccac	tgtatgtaac	caacccttat	300
ctggcaacat	aattgcagca	caataatgat	ttgcatgata	ccttgaaatt	ggggggaggg	360
ggcatgcaa	gttgggcac	actttgtctt	agcaattaat	gggatattga	ttactaaaat	420
aagttaatat	taaacaaggt	gccggttgta	ccttggccgg	gaacacgc		468

<210> 654
 <211> 612
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(612)
 <223> n = A,T,C or G

<400> 654

actgaagagc	ccatggatac	tacttctgca	gttatccatt	cagaaaattt	tcagacattg	60
cttgatgctg	gtttaccaca	gaaagtgtct	gaaaaactag	atgaaattta	cgttgcaggg	120
ctagttgcac	atagtgtatt	agatgaaaga	gctattgaag	ctttaaaaga	attcaatgaa	180
gacggtgcat	tggcagttct	tcaacagttt	aaagacagtg	atctctctca	tgttcagaac	240
aaaagtgcct	ttttatgttg	agtcatgaag	acttacaggc	agagagaaaa	acaagggacc	300
aaagtagcag	attctagtaa	aggaccagat	gaggcaaaaa	ttaaggcact	cttggaaga	360
acaggctaca	cacttgatgt	gaccactgga	cagaggaagt	atggaggacc	accttcagat	420
tccgtttatt	caggtcagca	gccttctgtt	ggcacctgag	atatttgttg	ggaaagatcc	480
caagagatct	atttgaggat	gaacctggtn	cantaatttg	agaaaacctn	gacctatatg	540
gggatcntcg	tctaattgatg	ggatcccttc	actgggcttn	aataaanggt	ntgccggttg	600
caantttttg	nc					612

<210> 655

<211> 608

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(608)

<223> n = A,T,C or G

<400> 655

ggtactttgt	cctggaggaa	gggcacgact	acacttcttc	caaggggag	aacatgggtg	60
gcggcgccat	gggctgcaac	aatgattccc	tggtgcagca	gatatttaac	gcggcgccagc	120
tggacaacta	taccggaata	ggcttcgccc	cctcgctctg	gatcgacgat	tatttcgact	180
gggtgaagcc	acagtcgtct	tgtgtctgag	tggacaatat	cactgaccag	ttctgcaatg	240
cttcagtggg	tgaccctgcc	tgcgttcgct	gcaggcctct	gactccggaa	ggcaaacaga	300
ggcctcaggg	gggagacttc	atgagattcc	tgcccattgt	cctttcggat	aaccctaacc	360
ccaagtgtgg	caaaaggggg	acatgctgcc	tatagtctgc	agttaacatc	ctccttggcc	420
atggcaccag	ggtcngaacc	acgtactaca	atgaanccac	aggtggcaaa	atgttcctcg	480
tgcttctctg	ggattaaact	gggaccatgg	cttgctcctag	ncctttgcng	nccttaaccaa	540
cacttgattg	canttgggag	taaattggcaa	gcctccagag	cncactgtnt	tgctgaggac	600
tccgcgcc						608

<210> 656

<211> 659

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(659)

<223> n = A,T,C or G

<400> 656

accaaactga	ccaatgggct	gcaagaggtt	tagattattg	ctaccacaaa	aattctgagc	60
caaattgata	atgggtcatca	ttagtgacat	ctcgccatga	tgataagaag	acatttcagc	120
cactgatcca	gctaattggg	caacctttac	ttctcgcttg	tcattccggt	tgaagcaagt	180
aaacaaaacc	tttctctgac	ctggtttcaa	accatccacc	atagaaggga	tagatctctc	240
gttatcagaa	tttgagaaca	agataagttc	cttggtgatg	aagtcattat	atgtcagata	300
tgtggtagtt	tgtccatata	agtaatcctc	aggaagccca	agtaactttc	gttgtctctc	360

atcctccatg	aaattagtta	accattcctt	tcgatcatct	atctgttttt	tgctaaaggc	420
caggctgata	gcagcatcat	cttcaggacc	agaatatattg	aactggatac	gatgtctttt	480
catatctgca	aagtatcttt	acttcctttg	atgtgctggt	gccc aaacct	ttgnaatatt	540
ggcttttcat	ttttatgatt	gggagtagaa	ctcttnact	cttcaaattc	aggaangctt	600
naaaatgcct	ttcttgcttg	gtttaganc	ttccatggg	agtataaat	cctccgaaa	659

<210> 657

<211> 676

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(676)

<223> n = A,T,C or G

<400> 657

ggtacagaat	tatataattc	taacgcttaa	atcatgtgaa	agggttgctg	ctgtcagcct	60
tgccactgt	gacttcaaac	ccaaggagga	actcttgatc	aagatgcca	accctgtgat	120
cagaacctcc	aaatactgcc	atgagaaact	agagggcagg	tcttcataaa	agccctttga	180
accccttcc	tgccctgtgt	taggagatag	ggatattggc	ccctcactgc	agctgccagc	240
acttggtcag	tcactctcag	ccatagcact	ttgttcactg	tcctgtgtca	gaacactgag	300
ctccaccctt	ttctgagaag	ttattacagc	cnagaaagt	tgggctgaaa	aatgggtggg	360
ttcatgggtt	tggattaatg	gatctttttg	gatgggaaa	actatatttt	gggacctcat	420
cttttccag	gatgaccag	aagctanaac	ctgctaaaag	gattcttggg	acntgaagg	480
tattaatacn	aaccnntca	tggnggnatc	ctnggaacct	gccgggaaga	aggccnttgg	540
cccgtttaat	gcncgggtgc	tnaacaagtc	tgnttcttgn	ntttcacttc	ancttggggc	600
cctggaatca	ncgtgcnctg	gtgnncagtt	taactatgnc	ttgntggaac	ccctaaggcc	660
ttangcctta	ccaaag					676

<210> 658

<211> 646

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(646)

<223> n = A,T,C or G

<400> 658

ggtacaatgg	aacaaacaac	aagaacacac	ctgtctatgt	gtcctcacca	acctgggaga	60
atcacaatgc	tgtgttttcc	gctgctgggt	ttaaagacat	tcggctcctat	cgctactggg	120
atgcagagaa	gagaggattg	gacctccagg	gcttcctgaa	tgatctggag	aatgctcctg	180
agttctccat	tggtgtcctc	cacgcctgtg	cacacaacct	aactggaatt	gacccaactc	240
cggagcagtg	gaagcagatt	gcttctgtca	tgaagcaccg	gtttctgttc	cccttctttg	300
actcagccta	tcagggttc	gcactctggaa	acctggagag	agatgcctgg	gccattcgct	360
atthttgtgtc	tgaagcttcg	agttcttctg	tgcccatcct	tctccaagaa	cttcggctct	420
acaatgagag	agtcnggaat	ctgactgntg	gttggaagaa	aacctgagaa	catcctgcaa	480
gtcctttcca	gatgagaaaa	tcgtgccgat	tacttggtcc	aatcccccg	ccaaggagcc	540
cnaattgtgg	ccagcacent	tttaacctga	cttttgagga	tggcnggtat	ntgaaacatg	600
gtnaccgatc	tggcctgana	ctgactnngn	ncnntnaanc	ctaaan		646

<210> 659
 <211> 673
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(673)
 <223> n = A,T,C or G

<400> 659
 actgtgtcca acagctgaag gaatttgagg ggaagacttt agtgtcagtc accaaagaag 60
 gcctggaact tccagaggat gaagaagaga aaaagaagca ggaagagaaa aaaacaaagt 120
 ttgagaacct ctgcaaaatc atgaaagaca tattggagaa aaaagttgaa aaggtgggtg 180
 tgtcaaaccg attggtgaca tctccatgct gtattgtcac aagcacatat ggctggacag 240
 caaacatgga gcgaatcatg aaagctcaag ccctaagaga caactcaaca atgggttaca 300
 tggcagcaaa gaaacacctg gagataaacc ctgaccattc cattattgag accttaaggc 360
 aaaaggcaga ggctgataag aacgacaagt ctgtgaagga tctgggtcatc ttgctttatg 420
 aaactgcgct cctgncttct ggcttcagtc tggaagatcc cagacacatg ctaacaggat 480
 ctgagggatg atcaaaacttg gtctgggtat tgatgaagat gaccctactg ntgatgatcc 540
 catgcttgct gnaactgaag aaatgccnc ccttgaagga gataccaccc ctnacgcctg 600
 ggaanaagtn actaactttg gcttanggat nnttacngt cagaccttgg ncggaccccc 660
 ttagggcnaa tcc 673

<210> 660
 <211> 580
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(580)
 <223> n = A,T,C or G

<400> 660
 acaaaacgcc acattctcac ttgtattggg agctgaaaaa tgggatcaca tggacgcagg 60
 acgggggaaca acacacactg gggcttttcg ggagacagag cgtaagaaa aacagctgat 120
 gcatgctggg cttaatacct aggtgacggg ttgacagggtg cagcaaacca ccatggcact 180
 cgtttacctt agtaacaaat atacacatcc tgcccataata cccagaact tagaaacaga 240
 acgaaacaaa agaaaacgag aaagcaatag caaatcgcta gcgggaaaac aaattttcaa 300
 actcagaaaa tgacagacca atttttgctt caaatcatgg ttcttaaccc aggtgccata 360
 aggtcaggat aaagaatttg attacatatt gtaaataaga catgcagcaa atgaccagaa 420
 aaattattcc caacatatgt gtgtcttcga attcaatggg gacgctatct accgggacat 480
 aacattagat tccaaagggc cgagtnncac aagactgncc tnccatacta ataacnatga 540
 aagccctacg ttgggtttac ctgcttttnt ancagctggg 580

<210> 661
 <211> 710
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1) ... (710)

<223> n = A, T, C or G

<400> 661

ggtacatata	aatgaatctg	gtgttgggga	aaccttcatc	tgaaacccac	agatgtctct	60
ggggcagatc	cccactgtcc	taccagtgtc	cctagcccag	actctgagct	gctcaccgga	120
gtcattggga	aggaaaagtg	gagaaaatggc	aagtctagag	tctcagaaac	tcccctgggg	180
gtttcacctg	ggccctggag	gaattcagct	cagcttcttc	ctaggtccaa	gccccccaca	240
ccttttcccc	aaccacagag	aacaagagtt	tgttctgttc	tgggggacag	agaaggcgct	300
tcccaacttc	atactggcag	gagggtgagg	aggttcactg	agctccccag	atctccact	360
gcggggagac	agaaacctgg	actctgcccc	acgctgtggc	cctggagggt	cccggttgnc	420
agttcttggt	gctctgtgtt	cccagaggca	agccggagggt	ttgaaagaaa	ggaacctggg	480
atgaaggggt	gctgggtata	aaccagaaaa	gggatnggggt	tcctgnttcc	aangggaccc	540
ctttggcctt	tcttctggcc	tttcctaagg	cccaggntctg	gggnttggn	ccttggggccg	600
ngaaccacgc	ttaagggccg	aaattccagc	acacttggcc	ggccggtacc	tagtgggatc	660
ccaactttgg	gtccaaactt	tggcgtaaatt	catngggcct	aacttngttn		710

<210> 662

<211> 411

<212> DNA

<213> Homo sapiens

<400> 662

ccaaaaatctg	gaatgttcat	agtgtcctca	atgtccttca	ttccctggta	gacaaatcca	60
acatcaaccg	acagttggag	gtatacacia	gcggagggtga	ccctgagagt	gtggctgggg	120
agtatgggcg	gcactccctc	tacaaaatgc	ttgggtactt	cagcctgggtc	gggcttctcc	180
gcctgcactc	cctgttagga	gattactacc	aggccatcaa	ggtgctggag	aacatcgaac	240
tgaacaagaa	gagtatgtat	tcccgtgtgc	cagagtgcca	ggtcaccaca	tactattatg	300
ttggggtttgc	atattttgatg	atgcgtcggt	accaggatgc	catccgggtc	ttcgccaaca	360
tcctcctcta	catccagagg	accaagagca	tgttccagag	gaccacgtac	c	411

<210> 663

<211> 633

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (633)

<223> n = A, T, C or G

<400> 663

ggtacttggt	tttaatgctc	gtcagcgaaa	agcctttctt	aatgcaatta	tgcgatatgg	60
tatgccacct	caggatgctt	ttactaccca	gtggcttgta	agagacctgc	gaggcaaatac	120
agagaaagag	ttcaaggcat	atgtctctct	tttcatgcgg	catttatgtg	agccggggggc	180
agatgggggt	gagacctttg	ctgatgggtg	cccccgagaa	ggcctgtctc	gccagcatgt	240
ccttactaga	attgggtgta	tgtctttgat	tgcgaagaag	gttcaggagt	ttgaacatgt	300
taatggggcg	tggagcatgc	ctgaactggc	tgagggtggag	gaaaacaaga	agatgtccca	360
gccaggggtca	ccctccccaa	aactcctaca	ccctccactc	cagggggacac	gcagcccaac	420
actcctgcac	ctgtccacct	gctgaagatg	gataaaatng	aaggaaaata	cctcaaagaa	480
ganagagctn	gaaggagaaa	aggagggttaa	actacagccc	tgaactgcca	tgatgactgc	540
ccggcgggccg	tcaaaggcna	atcaaccatn	gcgcggtnta	atggntcaac	tnggaccant	600
tgcnacatg	cnaacttgct	ctgggaaatg	nnc			633

<210> 664
 <211> 598
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(598)
 <223> n = A,T,C or G

<400> 664

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ctgcgctcaa	atgtggactg	acaaaaaagc	agctggacag	cacaattgga	atccaccctg	120
tctgtgcaga	ggtattcaca	acattgtctg	tgaccaagcg	ctctggggca	agcatcctcc	180
aggctggctg	ctgaggttaa	gccccagtgt	ggatgctgtt	gccaagactg	caaaccactg	240
gctcgtttcc	gtgccc aaat	ccaaggcgaa	gttttctaga	gggttcttgg	gctcttggca	300
cctgcgtgtc	ctgtgcttac	caccgccaag	gcccccttgg	atctctttgg	ataggagtgt	360
tgaatagaag	cagcacatca	cacttgggtc	actgcagaac	ttgaanttga	cattggcagg	420
catcnaggat	natccatgag	tcaccagtct	nagccatgtg	taggcgtatg	acactgcaaa	480
tatttacata	ccttctctgg	attctatctc	tggaagttnn	ggtgattttc	tttttcatgg	540
naanattaan	taaactncat	tatttgcaac	anntgttaat	cntcagggtg	tctgaagg	598

<210> 665
 <211> 658
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(658)
 <223> n = A,T,C or G

<400> 665

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gcagcatcat	tgtggcagcc	gatgagagca	ccatcagctg	gggcccacat	ccgacctttg	120
gggaactggg	ctacagggat	cacaagccca	agtcttccac	tgagcccag	gaggtgaaga	180
ctctgcatgg	catttttctc	gagccggctg	ccatgggcta	ctcacactcc	ttggatgatag	240
caagagatga	aagtgaaact	gagaaagaaa	agatcaagaa	actgccagaa	tacagccccc	300
aaaccctctg	atgctccaga	gactcctccg	actccacacc	tctcatggca	gctgcatttc	360
catgtgcact	gggaccggaa	agtcaaacna	ggaattttaa	aaagccaaag	tggaacccaaa	420
ggtgcctttt	tatttaaact	tcctganggt	ncggtttacc	agtgatccaa	cggtnactac	480
ctttttttct	ggttgctttc	caaagaccct	ttttttctct	taatggccaa	ataaaaaaac	540
tgnttcgaan	tggcntaaca	nttctaccaa	gaggccnaaa	ccttttacca	ttaagggggg	600
tttttcttct	tctntctgaa	acccttncca	aaaactcntt	tccgtttaat	nnntnngg	658

<210> 666
 <211> 349
 <212> DNA
 <213> Homo sapiens

<400> 666

gcggcggcgg	gggaagcagc	gtgagcagcc	ggaggatcgc	ggagtcccaa	tgaaacgggc	60
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agccatggcc	ctccacagcc	cgcagtatat	ttttggagat	tttagccctg	atgaattcaa	120
tcaattcttt	gtgactcctc	gatcttcagt	tgagcttcct	ccatacagtg	gaacagttct	180
gtgtggcaca	caggctgtgg	ataaactacc	tgatggacaa	gaatatcaga	gaattgagtt	240
tggtgtcgat	gaagtcattg	aaccacagtg	cactttgccg	agaaccccc	gctacagtat	300
ttcaagcaca	cttgaacctt	cagccccctg	atttattctc	ggttggtacc		349

<210> 667
 <211> 768
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(768)
 <223> n = A,T,C or G

<400> 667						
ggtggcgagg	tgagggccca	ggactctgac	cctgccccctg	ccttcagcaa	ggcccccgcc	60
agcgccggcc	actacgaact	gccgtgggtt	gaaaaatata	ggccagtaaa	gctgaatgaa	120
attgtcggga	atgaagacac	cgtgagcagg	ctagaggtct	ttgcaaggga	aggaaatgtg	180
cccaacatca	tcattgcggg	ccctccagga	accggcaaga	ccacaagcat	tctgtgcttg	240
gcccggggccc	tgctggggccc	agcactcaaa	gatgccatgt	tggaactcaa	tgcttcaa	300
gacaggggga	ttgacgttgt	gaggaataaa	attaaaatgt	ttgctcaaca	aaaagtcact	360
cttccaaagg	cccgaacata	gatcatcatt	cttggatgaa	acaagaacag	cattgacccg	420
acggagccca	agcaagccnt	tgaaggaaga	acccatggga	aaatctactt	ttaaaaacca	480
cttcgntttc	gnccctttgc	nttggaaatg	gcttttngga	ttaagaaaca	attngaagcc	540
ccaatttaan	tnccccgctt	ggggccaatc	ccnttccngg	taaccttggg	cccngggccn	600
ggccccggtt	cnaaaanggg	ccnaaaatgt	ccaagcacca	ctttgggnng	ggncctgntn	660
ncttaanggg	gatcccaaac	tttgggnacc	ccannccctg	nggcgnaaaa	ncaatggggc	720
ataaannngg	gttccccctg	ggngnaaaaa	tggnnattnc	ccccncnc		768

<210> 668
 <211> 659
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(659)
 <223> n = A,T,C or G

<400> 668						
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tgctagaaag	gtggcagatc	atattggaag	tgaacattat	gaagtccttt	ttaactctga	120
ggaaggcatt	caggctcttg	atgaagtcac	attttccttg	gaaacttatg	acattacaac	180
agttcgtgct	tcagtaggta	tgtatttaac	ttccaagtat	attcggaaga	acacagatag	240
cgtggtgatc	ttctctggag	aaggatcaga	tgaacttacg	caggggttaca	tatatattca	300
caaggctcct	tctcctgaaa	aagccgagga	ggagaagtga	gaggcttctg	agggaaactct	360
atttggttga	tggtctccgc	gcagatcgaa	ctactgctgc	ccatggtctt	gaactgagaa	420
gtccatttct	agaacatcga	ntttcttnct	aatacttggc	tttgccccag	aaatgagaaa	480
ttccaagaat	gggatngaaa	aacattttct	gaganaaaac	ntttgaggat	tccaatctga	540
taccaaagag	aatctttggc	gaccaaaana	accttnatga	tnggaaacct	tngntaaaaa	600
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<210> 669
 <211> 409
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(409)
 <223> n = A,T,C or G

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<400> 669
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cttatgctat ctgcggggcc attcgttaga tgggtgagtc agatgattcc attctccgat      180
tggccaaggc cgatggcatc gtctcaaagt aagggtgggg gctcacattt gggcagagtg      240
agtggactag gactgctcca gaggcgtggt cttaacgttg tccttttccc ctgggttctag      300
gaacttttga ctggagagaa tcacagatgt ggaatatattg tcataaataa ataatgaana      360
aaaaannnnn nnnnnnaaaa aaaaaaactt gtccctcggcc ggaccacgc      409
  
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<210> 670
 <211> 741
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(741)
 <223> n = A,T,C or G

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<400> 670
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aaatctggaa tgttcatagt gtcctcaatg tccttcattc cctggtagac aaatccaaca      120
tcaaccgaca gttggaggta tacacaagcg gaggtgaccc tgagagtgtg gctggggagt      180
atgggcggca ctccctctac aaaatgcttg gttacttcag cctggtcggg cttctccgcc      240
tgcactccct gttaggagat tactaccagg ccatcaagggt gctggagaac atcgaactga      300
acaagaagag tatgtattcc cgtgtgccag aatgccagggt caccacatac tattatgttg      360
ggggtttgcat atttgatgat gcgtcgttac caggatgccca tcgggtcttc gccaacatcc      420
tnctctacat ccagaggacc nagaagcatg ttncagaagg acccacgtac ctttggccgn      480
gaccacgcct aagggccaaa attncaacac actggccnng ncggttacct aagtggaatc      540
cnaaccttcg gnanccaaag ctttggccgt naatccatng ggccataagc ttgggtccct      600
gggggggaaa attggtaatn ccggttcacn aatttcccca ccaacnttcc naaaccgggn      660
aagcctttaa agnggtnaaa accntggggg tggccnnaaa ggggggggac ctnaacttnc      720
atttaaantg ggggtggccn c      741
  
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<210> 671
 <211> 699
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(699)

<223> n = A,T,C or G

<400> 671

ggtacagcag	gaattacaac	tactacctca	ccgagaactc	ctccaccact	gactgttcag	60
gatcccttat	gtcctgcagt	ttgtccctta	gaagaattat	ctccagatag	tattgatgca	120
catacgtttg	atthttgaaac	tattccccat	ccaaacatag	aacagactat	tcaccaagtt	180
tcttttagact	tggaattcatt	agcagaaagt	cctgaatcag	atthttatgtc	tgctgtgaat	240
gagtttgtaa	tagaagaaaa	tttgtcgtct	cctaataccta	taagtgatcc	acaaagccca	300
gaaatgatgg	gtggaatcac	tttattcatc	agttatcaat	gcgatagaca	gtagacgaat	360
gcagggatca	aatgtatgtg	gtaaggagg	atthttggaga	tcatacttct	ctgaatgtcc	420
agttggaaa	atgtagagtt	gttgcccaag	actctcactt	cagtatacca	accattaagg	480
aagaccttgg	cactttttaga	accattgtac	ctggcccggc	cggccgggtc	naaanggccg	540
aantttccag	acacttggcn	ggccgttact	tagtgggatt	ccgagcttcg	ggaccaagc	600
nttgccggtg	atcatngggc	catagctggt	tccnngngtg	naaattggta	ttccggttac	660
caattcccca	ccacnnttcc	ancccggnaa	ccntaaagt			699

<210> 672

<211> 377

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(377)

<223> n = A,T,C or G

<400> 672

actgaagctg	aaatgcagga	agtgggtggca	aagggtttatt	ccagagaagc	caggaagccc	60
gtcatcaccc	agcctctgag	agcagttact	ggggtcaccc	aacctgactt	cctctgccac	120
tccccgtgtg	gtgactttgg	gcaagccaag	tgccctctct	gaacctcagt	ttcctcatct	180
gcaaaatggg	aacaatgacg	tgccctacctc	ttagacatgt	tgtgaggaga	ctatgatata	240
acatgtgtat	gtaaactctc	atgtgattgt	catgtaaggc	ttaacacagt	gggtggtgag	300
ttctgactaa	aggttacctg	ttgtcgtgat	ctgaaaaaaa	aaannnnnaa	aaaaaaaaac	360
ctnggccggn	accacgc					377

<210> 673

<211> 650

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(650)

<223> n = A,T,C or G

<400> 673

cgaggtactt	gattggacca	gatgggtgagt	ttctagatta	ttttggccag	aacaagagga	60
agggagaaat	agctgcttca	attgccacac	acatgaggcc	atacagaaaa	aagagctagc	120
caaagcagtg	ttgctggatg	cagtattctc	ttgctaagag	gaaggaaact	gtctcgcata	180
ggagcctata	taaatataaa	catatatacg	tgactctac	agaatggcct	tcataccatg	240
agaacatttc	tgthttggat	ggggatgtta	cccttgcggt	caaccaaaat	tgattcttgg	300
aactgtaaag	attacaacc	aaagtctccc	aggaagctgt	ggggagacca	gaggatcaag	360
ctgaagtga	accagtga	aaaccacctg	tggaaggcat	ggcggggcca	ggcacaccag	420

tgcattcctg	cctgcgaaca	ggcctccaca	actttgccgc	ttttcatcgc	ttggggccctt	480
gctaaatagc	tgtgggactg	aattcacaga	aaagaatnta	tttccatagg	ctcttgctgg	540
ctcttcttga	gtctttntct	ttgagtcttg	gnggctatac	cgncgaatag	ggcttggcat	600
tanagtgatg	cttgaacttt	agttcctata	angattnctn	tcgattgcta		650

<210> 674
 <211> 705
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(705)
 <223> n = A,T,C or G

<400> 674						
ggtacaagct	tttttttttt	tttttttttt	ggtgaaaaga	tatatatata	tatatattca	60
gaattaggca	gctggactca	gttttagatga	tcccaatttt	gttggcaaca	tccaaagcat	120
cgtaatcagg	agccagtcga	acatatgcct	tcttctctcc	atcaggccga	atcaggggtgt	180
tgaccttggc	cacatcaatg	tcatacagct	tcttcacagc	ctgtttaatc	tggtgcttgt	240
tggctttaac	atccacaatg	aacacaagtg	tgttggtgtc	ttctatcttc	ttcatggcag	300
actcagtggg	cagcggaaac	ttgatgatag	catagtgggc	aagcttggtt	ctcctgggag	360
cgctcttccg	aggatatattg	ggctgtctcc	ggagtcgcag	tgtcttcggc	cgcccgaagg	420
nggggtgacg	tgccggatct	tcttcttttt	ggggctgtgg	accacctttc	aacactgcct	480
ttttgggccc	ttnaaaagccc	ttngcttttg	ctttagcttt	taggaagggg	ccaggaacct	540
tncttnttcc	gcttttccga	acctgccccg	gccggggcgt	tcnaaaaggg	cnnaatttcc	600
aacncacttg	gcngggccgn	tactaagggg	atnccaanct	ttggnancca	anctttggcg	660
naaancttgg	ggcnataaact	ggnttcccgg	ngngnaaaaa	tgntt		705

<210> 675
 <211> 622
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(622)
 <223> n = A,T,C or G

<400> 675						
ggtaccctaa	ttttccttgc	acccatgcct	gtccaatcag	atgactctgg	gaaacgccaa	60
acaggctgaa	tcaatgtctt	tgtgtgggtt	ttttcttcca	gattgttttt	ttctcaccta	120
taaaaggatc	tatctttaaa	aataaactgt	attaaatctg	taacatcaaa	ggcagaaggt	180
ttgtgtgtgt	gtgtgtgtgt	gtgtgtgtat	ctgtgtgttt	aaatcaaggg	gagattgcat	240
ttataaatca	tactggcctt	atgaacatcc	tctgcaataa	atatactttt	tagccttaac	300
tataaattat	atatttttagt	gtttaaaaac	cttccggtgt	gaaacatcta	agataaccct	360
taaaaaccac	ctgttctcta	ggtaaacctc	tgaggctccct	actttcaaac	accagtggc	420
accaaaggat	tcctaaactt	caacttcttt	aaagaaaaga	aaggaactta	tcactctggca	480
tgtgagaatg	caaccttttc	tcttnctgca	cgcagctnca	acacccactc	atgcacacag	540
tggccacctt	gctaaagtct	gttgaacagc	ctgcggcgcg	tcaagngatc	accactgcgc	600
gtctatgacc	actcgacact	gc				622

<210> 676

<211> 620
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(620)
 <223> n = A,T,C or G

<400> 676

cgaggtgcac	aggcaccact	aataatcaga	cctgattctg	gaaaccctct	tgacactgtg	60
ttaaagggtt	tggagatttt	aggtaagaag	tttcctgtta	ctgagaactc	aaaggggttac	120
aagttgctgc	caccttatct	tagagttatt	caaggggag	gagtagatat	taatacctta	180
caagagattg	tagaaggcat	gaaacaaaaa	atgtggagta	ttgaaaatat	tgcccttcggt	240
tctggtggag	gtttgctaca	gaagttggca	agagatctct	tgaattgttc	cttcaagtgt	300
agctatgttg	taactaatgg	ccttgggatt	aacgtcttca	aggacccagt	tgctgatccc	360
aacaaaaggt	ccaaaaaggg	cggattatct	ttacatagga	cgccagcagg	gaatttggtg	420
cactggaaga	aggaaaagga	gaccttgagg	aatatgggtca	ggatctcttc	atctgcttca	480
gaatggcang	tgacaaaagc	tatctttgta	aaaaaaaaaa	aaaaacctgc	cgccgncgtc	540
aangccaatt	caccctgcgg	cgtctatgac	cactgnccac	tgcnatntgc	tactgtntctg	600
ggaatgatcg	tncatcncan					620

<210> 677
 <211> 691
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(691)
 <223> n = A,T,C or G

<400> 677

cgaggtactg	ggtccaaatg	ctggagaagt	tacacaaggc	tttgacagctg	cgctcaaattg	60
tggactgacc	aaaaagcagc	tggacagcac	aattggaatc	caccctgtct	gtgcagaggt	120
attcacaaca	ttgtctgtga	ccaagcgctc	tggggcaagc	atcctccagg	ctggctgctg	180
aggttaagcc	ccagtgtgga	tgctgttgcc	aagactgcaa	accactggct	cgtttccgtg	240
cccaaattcca	aggcgaagtt	ttctagaggg	ttcttgggct	cttggcacct	gcgtgtcctg	300
tgcttaccac	ccgccaagcc	cccttggatc	tcttggatag	gagttggtga	atagaagcag	360
gcagcatcac	actgggggtca	ctgacagact	tgaactgaca	ttttggcaag	gcacgaaag	420
gatgtattcc	atgaagtcac	cagtcttaaa	cccatgtggt	aagccggtga	tggaaaccact	480
gtnaaatcaa	ttttaacatg	aacctttcnt	gnggatttct	taatctcggt	gcaagttttt	540
aaggggtgaat	ttttcttttt	ctncatgggg	gtaatgatgt	tnagatgaaa	acctttccag	600
ttgatttttg	tccaaancaa	tnatgggttaa	atatccctcc	agggnntttt	ncttgaagga	660
aattggtntct	ttgaggtttt	agcttnccgg	a			691

<210> 678
 <211> 667
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1) ... (667)

<223> n = A,T,C or G

<400> 678

cgaggtactt	gattggacca	gatggtgagt	ttctagatta	ttttggccag	aacaagagga	60
angggagaaa	tagctgcttc	aattgccaca	cacatgaggc	catacagaaa	aaagagctag	120
ccaaagcagt	gttgctggat	gcagtattct	cttgctaaga	ggaaggaaac	tgtctcgcat	180
aggagcctat	ataaatataa	acatatatac	gtgcactcta	cagaatggcc	ttcataccat	240
gagaacattt	ctgttttggg	tggggatggt	acccttgctg	tcaaccaaaa	ttgattcttg	300
gaactgtaaa	gattacaacc	caaagtctcc	caggaagctg	tggggagacc	agaggatcaa	360
gctgaagtga	aaccagtga	gagcccacct	gtggaaagga	catggcgggg	cgaggcacaa	420
ncagtgcatt	cctgcctgcg	aacagnccctn	cacactttgc	cgctttcatc	gcttgggcct	480
tggtaaatac	tgtggactga	atttccagaa	aagaatntat	ttcataggnt	cttnttgctt	540
tcttgagtct	tgtctttgag	tcttggggnt	aanacagtcn	aatanggctt	tgcnttcaag	600
tgancttgaa	cctaagttcc	tntaangana	tcctttcnat	gctatgaaag	gaattttgtt	660
nggggaa						667

<210> 679

<211> 302

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (302)

<223> n = A,T,C or G

<400> 679

cgaggtactg	atgggggaagt	gccggcgctt	cttggatgaa	ctagatgcgg	ttcagatgga	60
ctgagcttgg	atgcttctga	ggcaagctga	agctttgggt	tctgactgac	ccaccctaca	120
ggactgctga	acagagagcc	cagtgtgact	agggatcctg	agttttctgg	gacaattcca	180
gctttaatca	atacattttg	ttaaattgtgc	cataaaatga	gactttttac	gcctttataa	240
ggccttagat	gtaaataaac	tcacccaaac	aaaaaaaaaa	aaaanaaaaa	aaaaaagctt	300
gt						302

<210> 680

<211> 649

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (649)

<223> n = A,T,C or G

<400> 680

ggtacgtgct	caggaaatta	aaaacaaaaa	tcaaggaatt	gaacaacaca	tgtgaaccgc	60
ttgtaacaca	accgaaacca	aaaattgaat	cacccaaact	ggaaagaact	ccaaatggcc	120
caaattattga	taaaaaggaa	gaagatttag	aagacaaaaa	caattttggg	gctgaacctc	180
cacatcagaa	tggtgaatgt	taccctaattg	agaaaaatc	tgtaatatg	gacttggact	240
agataacctt	aaattggcct	attccttcaa	ttaataaaat	atttttgcca	tagtatgtga	300
ctctacataa	catactgaaa	ctatttatat	tttctttttt	aaggatattt	agaaattttg	360
tgtatttatat	ggaaaaagaa	aaaaagctta	agtctgtagt	ctttatgatc	ctaaaaggga	420

aaattgcctt	ggtaactttc	agattcctgt	ggaattgtga	attcatacta	agctttcttg	480
gcagtctcac	catttgcata	ctgaggatga	aactgacttt	ggcntttgga	gaaaaaaact	540
gtcctgccgg	cggcgtcaa	aggcaattca	ccctgcggcg	tntanggacc	actnggacca	600
ctgggaantg	gctactgtcc	tggaatgtnc	cgtccatccc	aatcaccgg		649

<210> 681

<211> 722

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(722)

<223> n = A,T,C or G

<400> 681

cgaggtagca	ccagagggaa	agctggggcg	gagggatttg	ttcgtgttga	cccgagatta	60
tgtgctgaag	tctgcagagc	tggcaaaagc	tggagggtgc	aaacatttca	acttgctatc	120
ctctaaagga	gctgataaat	caagcaattt	tttataatca	caagttaagg	gagaagtaga	180
agccaagggt	gaagaattaa	aatttgatcg	ttactctgta	tttaggcctg	gagttctggt	240
atgtgatagg	caagaatctc	gcccagggtga	atggctggtt	agaaagtctt	ttggctcctt	300
accagactct	tgggccagtg	ggcattctgt	gcctgtggtg	acccgtgggt	tagagcaatg	360
ctgaacaatg	tgggtgagac	caagagacaa	gcagatggaa	ctgctggaga	acaaggccat	420
ccatgacctg	gggaaaagcg	catggctctn	tnaagccatg	acccccattg	gagaaatggg	480
ttttattggc	aacccttaca	cccattacc	aaatcngnaa	tttcanggtc	taaaaaaaag	540
tancctggt	ttaactttgg	ngggttacta	atccttaggc	ttcanttcca	atcaggaaat	600
gatggggcct	ntggattaag	gggttcaaaa	cccgggtttc	cctttggann	cttcggggnc	660
ntttggnaaa	ataaaaattt	gnnnccctnt	tttaacttga	atnaaaattt	nggggggggc	720
cn						722

<210> 682

<211> 530

<212> DNA

<213> Homo sapiens

<400> 682

ggtacttgcc	tttagtttat	caggggatgt	gtaaggagct	tcaggagcat	aaatcctgaa	60
aatatcagca	aggcagcagg	ctaccagtaa	gcgaacatcc	ttatcaggat	gcttgaggaa	120
aaaatctgaa	gcaagatgta	aagctaggtt	taaataaagc	tccttttctt	cttcagagtc	180
ctgggtccata	tccataaaaag	ttttcacaac	catctatata	aaaataaaaa	atcaaataat	240
gaaatgctcc	atgtaaaact	acagtcattg	gaaataaagg	tcatgttaat	tgctaagggt	300
aacttcaaat	gaatatactt	tcatttttct	gcagaaaagtc	tctatttgag	agaacacaaat	360
tctcctaaaa	ctacaaaagta	aacttctatt	taaaagactt	actaaaatat	tttttcattt	420
acccaaaata	tctgctaacc	agatttttaa	agattaaatt	gcccttatgt	agtagtcatt	480
attggaagaa	ttccaataga	atatttgtgg	aaacttctgg	tctcacttgt		530

<210> 683

<211> 745

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(745)

<223> n = A,T,C or G

<400> 683

ggtacctgtc	tttccttatt	ccctcaccct	tagtggatca	tttgtatctc	ctgccttatg	60
agaacctttt	gacagaagat	gagacaacca	tatctgatga	tgtggatata	gctcgggatg	120
tcatatgtct	tataaaatgc	ctccggctga	ttgaagagtc	agtaactgtg	gatatgtcag	180
ttataatgga	aatgagttgt	tataacctac	agtctccgga	aaaggctgca	gagcagattc	240
tggaagatat	gatcactatt	gatgtagaaa	atgtgatgga	ggatatttgt	agtaaactgc	300
aagagattag	gaacccaatc	catgcaattg	gactacttat	acgggaaatg	gattatgaaa	360
cagaagtgga	aatggaaaag	ggattcaatc	cagctcacct	ttgaatattc	gaatgaatct	420
tacccagctc	tatggtagta	acacagcagg	gtatattgtg	tgccagangg	gtgcattaaa	480
atccgccagt	acctgcceng	gccggccgnt	cgaaanggcc	naatttccac	acactgggcg	540
ggcgttact	anggggaatc	ccaagctttg	gganccaagc	nttgngcgta	atcatgggcc	600
ataanctngg	tnccctgggn	ngaaaatngg	taatccggtt	aacaattncc	ccnccaactt	660
tcccnacccg	gnaaccctta	aaggggtaaa	aaccctgggg	gggncccaa	gggagggggc	720
cttaaccttc	ccctttaaat	tggn				745

<210> 684

<211> 628

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(628)

<223> n = A,T,C or G

<400> 684

ggttggagac	ccgagaaccg	gaggctggag	agcaaaatcc	gggagcactt	ggagaagaag	60
ggaccccagg	tcagagactg	gagccattac	ttcaagatca	tcgaggacct	gagggctcag	120
accttcgcaa	atactgtgga	caatgcccgc	atcgttctgc	agattgacaa	tgcccgtctt	180
gctgctgatg	acttttagagt	caagtatgag	acagagctgg	ccatgcgcca	gtctgtggag	240
aacgacatcc	atgggctccg	caagggtcatt	gatgacacca	atatcacacg	actgcagctg	300
gagacagaga	tcgaggctct	caaggaggag	ctgctcttca	tgaagaagaa	ccacgaagag	360
gaagtaaaaag	gcctacaagc	ccagattgcc	agctctgggt	tgaccgtgga	ggtagatgcc	420
cccaaactctn	aggacctcgc	aagatcatgg	cagacattcc	ggcccaatat	gacaactggc	480
tcggaagaac	cnagangact	ngacaagtcc	ttgccggccg	ncgtcnaagg	caattcacca	540
ctgnggcgctc	tatgatccac	tgnnactgg	gantgctact	gtctggaatg	ttcgtnatcc	600
cactcacgac	tagnactggc	tagggata				628

<210> 685

<211> 758

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(758)

<223> n = A,T,C or G

<400> 685

gcgtgggtcg	cggccccgagg	tacggagcaa	atgttttatt	taataagtta	taagatacaa	60
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tttacagtcg	gcgtttgatt	ccagtttngg	cttccgtggt	ccaacttaac	acaccccggtg	120
ggcccttcac	aataagcttc	cggctgggtcc	actttctgta	ngggtgggct	tttaccctcaa	180
cactngccca	gatctacacc	tgccacaaga	ntggccactt	tctnaggact	aagcagcaaaa	240
acctaaaggn	ctgcctgcca	gaccacacta	cacatttggg	ctcaggcaac	gtccctgaca	300
ctttaacctc	attccaaagc	cagctcaggt	ctgcaggaag	gcaggcaaaa	ttccctacac	360
ctcatttctg	gatttctgca	ccacacagnt	ctnactggtt	ctgcccattg	tgaaaagacc	420
ccaataagct	gntggccttn	tttccccaac	cattcccaac	tttnagggcc	aagancccca	480
agaggttcaa	tctggcctgc	tggacctggc	cggcnggccg	ntnnaaangg	ccaaantcca	540
ncacaattgg	gnggncggta	ctaaagggga	acccaacttn	gggnccaaac	tttggggnaa	600
acatgggggn	naanngggnn	ccnggggngn	aaaatngnna	nccentttcc	aaattncccn	660
ccaanntttn	naacccggaa	accttaaang	ggnaaaancc	cggggggggc	caaagggggg	720
ggccnannnn	ccntttaaan	ggggnngggc	ccccccnn			758

<210> 686

<211> 697

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(697)

<223> n = A,T,C or G

<400> 686

ggtacagatt	gggcggaatg	tggagaaggt	tggccacagt	ccagagccag	gagcccatgg	60
aacaacttgg	aaggtgactc	aggtgaggct	gtcaatgagg	gaatcccgca	tgctgggtggc	120
aatggtgcta	ggctgggctt	cattcagctt	gaagacactc	tccaccactg	acagctctgt	180
gctggttgtg	tccaggccac	agaaggcaca	ccagtcattc	accaccatcc	cagcagcaat	240
cacctcactg	cctcggttca	cagtccccgc	cacaaggggg	acttgaagaa	gagaggacag	300
ctcatcctgg	tcttcaattg	aagtcttggg	atgcaccagc	cctccctgat	tgctgaagac	360
acagtagctt	cctactagca	cctggtcggc	cactgctgtc	tgaagacttc	caccttgagc	420
acatctgcca	gaattttctt	tgntcctctg	ccaagtctgg	gtggaccaag	gncacgtagt	480
cattttcaagt	ggtgacattg	cccaaggctt	aaaaccgttc	ttcaaccgnc	taatctgcac	540
ttggtctggg	aaggttggtg	ccaatgtgtg	caacttctgg	ggccgnggta	ttgtngggac	600
cttggccggc	cggccgttca	aagggcaatt	ccanccaatg	ggggccgtac	tangggaacc	660
ancttgggnc	caacttgggg	naanatgggc	nnaacgn			697

<210> 687

<211> 668

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(668)

<223> n = A,T,C or G

<400> 687

acataataac	ctcatcaact	aactttttaa	ttaactgaat	ggctattatg	tatttattac	60
tcaataaccag	tocattacct	aatataagag	cactaagagt	atttaatcat	tacctatttt	120
aattttatttt	ataggtgaaa	aacactgatg	tcaagttagg	ttgaggaact	tatattcaag	180
gtcctccagc	taactgtcga	cacaacaatg	actagaacta	attgtcaggt	ctcctgataa	240
ttagttccact	gttcttttcta	ttctaccata	aggttgtag	gatgaagaat	actgcagttt	300

tactgcataa	atattctgaa	gtcagactta	ctctaaggca	ttcttccttc	agaatacagg	360
ctaaagcaga	atTTttacaag	ctactgcttc	TTTTTTTTTT	TTTTTTTTTT	ataaacacag	420
aacattttgn	tcaaaccaaa	tctaactcag	aagtgnaaat	aatgnaagcc	aatcactatt	480
aaaaggcnga	atttcctaaa	gggaaaanta	ccatttaacc	aacctttcta	aagtaaacad	540
cctttccang	ggactgggga	tttagnccta	cacttgaagg	cttcctggga	cctgggcggn	600
acccttangg	cnattcance	atgggggcgg	tctanggnnc	cacttgggcc	annttggnna	660
attnggen						668

<210> 688

<211> 375

<212> DNA

<213> Homo sapiens

<400> 688

acatcaattc	agtgagaaaa	gggtgtgtagg	gagccataag	tctgcaaaga	gaaagcagaa	60
cactaaacaa	ggttttctagg	gccatgacac	aatcctccat	cccattttca	ccctttaatc	120
ttctgcggtt	cattctaaca	taccaattgg	tcagaatata	tacaaacttg	accaggcgag	180
gcaccacagt	ataaagccta	taagctgcc	tttcagcttc	aaagaagcca	atgagagact	240
gcatgaagga	caggatccac	cggtctgtaa	tgttggggct	ttctctaacc	gtgttctcat	300
tgtagagaaa	ttctatttct	tcctccttct	ggagcctcag	aacgttcttg	attaagaagc	360
gataggcatt	gtacc					375

<210> 689

<211> 582

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(582)

<223> n = A,T,C or G

<400> 689

ggtacaaaa	gttaaataac	ttacctgggc	tgttttagaaa	ctctctacct	agaaagattt	60
ccattaccgt	cagatgttag	gagaggatct	aacataggaa	aggtcaccag	ttgtcacaga	120
aaaagccaaa	gaacttaggt	ctagtgcctc	tttgccactg	acaaactaat	aacaccctct	180
agacatcctc	aagtccttct	ccttgctcag	gaattttctt	ctaccagggtc	ttttctacca	240
acttctctgt	ataactacat	cttactcatc	tttcaaagcc	cgactcagtt	gccccttcca	300
tctagaaaa	tttcagagcc	aaactatccc	agcacatggg	tatgatctct	caaacctctg	360
tgtttcccca	tccttggtgc	ccgttaaatt	ctgccacaag	ctcagaccga	ctctctattt	420
ggcttatattg	tgtctaatac	attgagttct	cctccaaagc	agagatcatg	cttcactcat	480
ttctgcatct	ncaggacctt	atgaatgaat	gaatgtgtga	attataagga	ttactaaagc	540
cncagggcct	gactcaaagc	caggacccta	gtaggngctt	gg		582

<210> 690

<211> 812

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(812)

<223> n = A,T,C or G

<400> 690
 actaaagcgg atgggaatgt cgtttggcct ggagtcaggc aaatgctctc tggaggatct 60
 gaaacttgcg aaatccctgg tgccaaaggc tttagaaggt tatatcacag atatctccac 120
 aggaccttct tgggttaaactc agggactact tctgaactct acccaatcag tttcaaattt 180
 agacctgacc actgggtgcca ccttacccca gtcaagtgt aaccaagggt tatgcttgga 240
 tgcagaagtg gccttaacaa ctgggcagtt cctggcccca aacagtcacc agtccagcag 300
 tgcggnctnt nactgnttcg agtcccgaag cgaagacccc ctggtcgttc aatgatgaan 360
 atgaaggaan atgatgaagg agggattccc tncctcccaa gaattaaaga ccangaagaa 420
 agccctacct tttcaaatat ggtgaatgcc tcaatggtgt ggtttggtta ntgggtgaag 480
 cctcnttggg ttttttgaaa atggaattgg ctttcaagtc cttttggccc tttgggtttg 540
 gcacttgggg nggggttcaan nggaaaaanc tttngnggaa aacnccccat ttaggcccac 600
 attcnccatt gaaanggctt tgaaaaatgn atttggnaaa ttgnaaaagg ttnaaccctt 660
 aanggggnaa attgnaaaaan tnttgggccc aaccngaacc cnttnnaan gggnttttnc 720
 cccaannaaa agcctggcnt tttttgaggg gaaaaaanng gggggataaa ncccccttaa 780
 aaaatttgcc cnnntnnaag ngccaccntt tt 812

<210> 691

<211> 691

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(691)

<223> n = A,T,C or G

<400> 691
 acctactata atacagtagc taacatgtat tgagcacaga ttttttttgg taaaactgtg 60
 aggagctagg atatatactt ggtgaaacaa accagtatgt tccctgttct cttgagcttc 120
 gactcttctg tgctctattg ctgcgcactg ctttttctac aggcatcata tcaactccta 180
 aggggtcctc tgggattagt taagcagcta ttaaatcacc cgaagacact aatttacaga 240
 agacacaact ccttccccag tgatcactgt cataaccagt gctctaccgt atcccatcac 300
 tgaggactga tgttgactga catcatttta tcgtaataaa catgtggctc tattagctgc 360
 aagctttacc aagtaattgg catgacatct gagcacagaa attaaggnaa aaaaccaaag 420
 caaaacaaat acatgggctg aaantaactt gatgccaaag ccaaggcact gatttctggg 480
 natttgaact tanggcaaact cagagctaca cagacgccta cagaaggctc aggaagangc 540
 agaagccttc aatttgaaag aaattttattg gcaccaaagt aagggccgga tnaaccttta 600
 ggcnttttta nggagggcct tttaaaaagg ntccttggcc ggaacncntt angngnaatt 660
 ccancntgg gggccgtatt aagggacccg n 691

<210> 692

<211> 271

<212> DNA

<213> Homo sapiens

<400> 692
 cgaggtactg ctgctaccac tggaaagcgt gcgcctcttt cgggttttgt cccggccgcg 60
 atcctttctca ctgcactcct tggtagggccc tttatctttt gagcgatcct tggacttctc 120
 atctgagcgg tctttgcgtt tggtaggtga aggagcccta gtgctggact ttttattatg 180
 agaaacgatc cctaatacgat tgcaatttac gccgaagagc agcatcttcc ctccgccgcc 240
 acctcctcct gctttctca gccgccgagg c 271

<210> 693
 <211> 730
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(730)
 <223> n = A,T,C or G

<400> 693

cgagggttttt	ttttgcccga	catgaaacat	tattttaatt	ggtttaaagt	ccctttataa	60
agagtgtctac	atgggtttaga	taaaggaaac	atataactat	tgagttacag	gggattttat	120
taattataaa	atgcaatcaa	tttaaattac	gtaggtttaa	gactagtccc	ttggataagc	180
cccaagcgaa	tttgtcttca	gattattaaa	attagtgtcg	taaatcaggg	tgggcaattc	240
acagcctttc	tgaactgact	gaactagagc	ttgcagtga	gtgttctgct	gagactgagc	300
accttacaga	tatttttctc	cagaagatgg	tgctgggtaa	taaaatcatc	acaattaggg	360
gaatggttaa	gtgggtctcta	ctgnggcaaa	tgccaactgn	tggaattcac	tttattgtag	420
aaaaacccaa	actgagactc	ttaagttttg	gttaacaatg	nggttctggg	atgaaaccaa	480
ctactggggc	actgnccagg	taggaaacca	ttctttcact	ggggtttcag	cataaatggg	540
aactggatgt	tnaaaggcng	ggaattaacc	ctttttaggg	caaaagaaaa	agcttaantg	600
gggntttacc	aangggntcc	ctggggccta	aattcaannn	tgggncctac	anngncenna	660
anccctggnt	aaacccgat	taacccttta	acctgggaac	ccaaccttta	aanggggggt	720
tttaaaaggg						730

<210> 694
 <211> 700
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(700)
 <223> n = A,T,C or G

<400> 694

cgagggttaca	aaccacaaag	acattggaac	actataccta	ttattcgccg	catgagctgg	60
agtcctaggc	acagctctaa	gcctccttat	tcgagccgag	ctgggccagc	caggcaacct	120
tctaggtaac	gaccacatct	acaacgttat	cgtcacagcc	catgcatttg	taataatctt	180
cttcatagta	ataccatca	taatcgagg	ctttggcaac	tgactagttc	ccctaataat	240
cgggtgcccc	gatatggcgt	ttccccgcat	aaacaacata	agcttctgac	tcttacctcc	300
ctctctccta	ctcctgtctg	catctgctat	agtggaggcc	ggagcaggaa	caggttgaac	360
agtctaccct	cccttacagg	gaactactcc	accctggagc	cttcgtagac	acaccttgga	420
gttttttcga	aatatggggt	gggtttttgg	gctctttggg	tgaattaaaa	taaaatttaa	480
atgccttcac	gctgngatag	gtgccacatg	aactaccgag	nttcngaaaa	agaagggaga	540
actgacactt	cttanngntt	gcagactntt	aangggccct	taggactant	ngggcttttg	600
ggggtaaaaag	gtnccttna	agaanccng	nacctggccn	ggggggcggt	naaangggga	660
attcnanccn	ctggggggccg	tactaagggg	accactnng			700

<210> 695
 <211> 690
 <212> DNA
 <213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(690)
<223> n = A,T,C or G

<400> 695
ggtacagatg gcactgacaa tcccccttct ggtggggatc agtatcagaa catcacagtg 60
cacagacatc tgatgctacc agatcttgat ttgctggagg acattgaaag caaaatccaa 120
ccagggttctc aacagggtga ctctctggat gcactaatcg tgagcatgga tgtgattcaa 180
catgaaacaa taggaaagaa gtttgagaag aggcataattg aaatattcac tgacctcagc 240
agccgattca gcaaaagtca gctggatatt ataattcata gcttgaagaa atgtgacatc 300
tccctgcaat tcttcttgcc tttctcactt ggcaaggaag atggaagtgg ggacagagga 360
gatggccctt ttcgcttagg tggccatggg ccttccttcc cactaaaagg aattacnca 420
acagcaaaaa gaaggtcttg agatagtga aatgggtgat atatctttag aagggtgaaga 480
tggttggtgat gaaatttatt cattcatgag agtctgagaa aactgngccg tcttcaagaa 540
aattgagagg ctccatttca cttggncctg ccgactgacc atggctccaa ttggctataa 600
ggttgagcgc tttaatcgat ttncngggna ggggttaaaag cttggncctg tgggttccaa 660
acataaaaaa aannnnnnnn aaaaaanant 690

<210> 696
<211> 688
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(688)
<223> n = A,T,C or G

<400> 696
ggtacagaaa tgaggcgctcg cagaatagag gtcaatgtgg agctgaggga aagctaagaa 60
ggatgaccag atgctgaaga ggagaaatgt aagctcattt cctgatgatg ctacttctcc 120
gctgcaggaa aaccgcaaca accagggcac tgtaaattgg tctgttgatg acattgtcaa 180
aggcataaat agcagcaatg tggaaaatca gctccaagct actcaagctg ccaggaaact 240
actttccaga gaaaaacagc cccccataga caacataatc cgggctggtt tgattccgaa 300
atttgtgtcc ttcttgggca gaactgattg tagtcccat cagtttgaat ctgcttgggc 360
actcactaac attgcttctg ggacatcaga acaaaccaag gctgtggtag atggaggtgc 420
catcccagca ttcatttctc tgggtggcatc tccccatgct cacatnagtg aacaagctgt 480
ctgggctcta ggaaacattg caggtgatgg cttcaatggt nccagacttg ggtanttaag 540
acctggccgg ccggccggtc aaaaggccaa ntccacacct tggcggccgt ctannggatc 600
caactnggac caacttgggg naacatggca aactggttct tggggaaatg gttccgttcc 660
aattccccaa tttcaccgag gctaaagg 688

<210> 697
<211> 732
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(732)
<223> n = A,T,C or G

<400> 697

gcgggtcgcg	gccgaggtac	tcccgattga	agccccatt	cgtataataa	ttacatcaca	60
agacgtcttg	cactcatgag	ctgtccccac	attaggctta	aaaacagatg	caattcccgg	120
acgtctaaac	caaaccactt	tcaccgctac	acgaccgggg	gtatactacg	gtcaatgctc	180
tgaaatctgt	ggagcaaacc	acagtttcat	gcccatcgtc	ctagaattaa	ttcccctaaa	240
aatctttgaa	atagggcccg	tatttaccc	atagcacccc	ctctaccccc	tctagagcca	300
aaaaaaaaaa	aaaaaaaaaa	aaaaaaagct	tgtaccatct	cccagtcctg	gaggctggcc	360
atgtgagacc	caggatttgc	agggctgggt	gcttctgagg	ctgagggtgtg	tcccgtcttg	420
ctccaggccc	ttcccagctg	gtcttctccc	tacatttgca	gacngatggc	catccgaagn	480
tgacatcatc	tcctttgggg	ctggctctgg	gnccattggg	aattaatggt	ttanagacng	540
aattcactgg	ggtgcttaag	cttgggcttc	aaaccggtag	gnntaaacnn	nnttntcttc	600
ttagccttcc	aagtaactng	atnccnggct	taanccccctg	ggcccanccc	aaagttcccc	660
cttttttaan	gggcctcttt	ttaatngggg	taaggncnc	tggaaggatt	cntnttaact	720
nggaaancnt	na					732

<210> 698

<211> 651

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(651)

<223> n = A,T,C or G

<400> 698

cgagggtgcca	cgtaatgtcc	cgtagttcgc	tcatcccgtc	catgccagat	ggattgtggg	60
gaagggtgatt	gggacaaaaa	tgcaaaagac	tgctaaaagt	agagtgacca	ggcttgttct	120
ggatccctat	ttattaaagt	attttaataa	gcggaaaaacc	tactttgctc	acgatgccct	180
tcagcagtgc	acagttgggg	atattgtgct	tctcagagct	ttacctgttc	cacgagcaaa	240
gcatgtgaaa	catgaactgg	ctgagatcgt	tttcaaagt	ggaaaagtca	tagatccagt	300
gacaggaaag	ccctgtgctg	gaactacct	cctggagagt	cccgttgagt	tcggaaacca	360
cccagctaag	caaaaatctg	gaagaactca	atatctcttc	agcacagtga	agcgggagtg	420
gaagaaggat	ctaaagggaa	aaactgacat	gtttatgtta	tggaaaaaga	aattttctaa	480
gttcatcaca	actgngtcag	ttcttgngng	ttatgaatac	taaaccaatg	aataanggct	540
actatggttt	tacaaaaaaa	nnnaataaaa	anaactgnct	gccggggcgt	naaggnaatn	600
accatgngcg	tntntgggnc	acttggccac	ntggganngg	cnantgtctg	g	651

<210> 699

<211> 709

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(709)

<223> n = A,T,C or G

<400> 699

actgtagcat	attaataccc	tgtgaactgc	aaaaaaccaa	atacatttac	agtagtattg	60
gtcaccaaaa	tagaggggaa	actttacaat	tgtgagaatg	tgtaaatgtt	ctcattaagg	120
cagtattgac	ccagacaacc	atttagtatt	catctatccc	ctcaatgcct	cataattctg	180

gaatgcctgt	tgtgaaacat	gtcagtgac	agtgtctcct	aaattctcac	acgtgcttga	240
ttttctgatt	catctgggtga	actgggagta	ggaagttggg	catagacaat	atgccctcct	300
tctcttgtct	gaccaaagct	tgaagcaatc	acatctactg	ccagggttagc	tgtagtcttc	360
gcctcttcct	ctgagggtggc	caactgagga	ttgacttcaa	caagatccag	tgctgatagc	420
aaccctgnat	tgggtattcc	tcagcaatat	acatgccttc	tcgatanggt	aagtcccccg	480
acacaggagt	tncgtgtggct	tggagcccgt	gtaggggcaa	atgcntnaat	atcnaaactt	540
caaatgggaat	gggcttttgg	ctcttgccaa	tcancngaac	caaangttcg	ntccctgaac	600
cntttggaaa	cccagtttnat	tcaanttnn	tcangggaaa	aaacctggga	atcnaagnct	660
tttaaaaaaa	aaggttcnga	ngggncnccg	tttttnaacc	aaaaaaccc		709

<210> 700

<211> 656

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (656)

<223> n = A,T,C or G

<400> 700

ggtcagaacc	taaaggtttc	actgaatgcg	aaatgacgaa	atctagccct	ttgaaaataa	60
cattgttttt	agaagaggac	aaatccttaa	aagtaacatc	agacccaaag	gttgagcaga	120
aaattgaagt	gatacgtgaa	attgagatga	gtgtggatga	tgatgatatc	aatagttcga	180
aagtaattaa	tgacctcttc	agtgatgtcc	tagaggaagg	tgaactagat	atggagaaga	240
gccaagagga	gatggatcaa	gcattagcag	aaagcagcga	agaacaggaa	gatgcactga	300
atatctcctc	aatgtcttta	cttgaccatt	tggcacaaac	agttgggtgtg	gtaagtccag	360
agagtttagt	gtccacacct	agactggaat	tgaagacac	cagcagaagt	gatgaaagtc	420
caaaaccagg	aaaattccaa	agaactcgtg	tcctcgagct	gaatctgggtg	atagccttgg	480
tctgaagatc	gtgacttctt	tacagcattg	atgcatatag	atctcaaaga	ttnaagaacn	540
gaacgtcntc	ataagcagtg	atgtccgaag	ganatgtctt	aaactgntga	aaaatanccct	600
tcttgcgata	ttcaccgaaa	gcggactatc	caatattcnc	nacgggttta	ctgcnn	656

<210> 701

<211> 716

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (716)

<223> n = A,T,C or G

<400> 701

ggtaccttga	cagggacgag	aggctgaagg	agttgccagc	cccatctttg	aatgaacatt	60
cagtcagatc	gaaaggtggg	cagggcactact	gcgttcgcca	ctcaaacaag	taggaacaat	120
ctgaagtctc	ctttagaaat	actggccgct	gggtgcgcgcg	gtcacagtag	aagaagatgg	180
ctgtggagcg	ctgataaacc	ttatggcaag	tgtccccccc	gtgaagttca	tttttaacaa	240
gccattttca	taagttagct	tctgagtcag	gagacctgcc	actttgtgaa	atccctgcgg	300
ttcccgcctt	tcctgacatg	aggagaccac	cttggaacttg	ncacttgtgg	gggcagacgt	360
ctgaggaaaa	gctttccaca	gaccccgaaa	gtaataaagt	gtattcgcca	gcgctnacga	420
atgggtgctg	tgaagcccaa	gggcttnang	tcatacaagt	tgccatgccc	ttgggtcttt	480
caccttacaa	ggtgncccn	ttcacttttg	acaacgggac	caggctttca	caagttttcc	540

aantaacccg	taccttgccc	nggccggccg	ttnnaaangg	gcnaattcca	nncacttggn	600
ggccgtacta	aggggatccc	aactttggac	ccaacttggn	gnaaanatng	ggcntaactg	660
gttccctggg	gnaaaatggt	tcccgttcaa	aattcccncl	aantttgagc	cggaag	716

<210> 702

<211> 707

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(707)

<223> n = A,T,C or G

<400> 702

tgnatntgtc	agcggcgccg	tgtatggtat	ctgnagaatt	cgcctttcga	gcggcgccgg	60
gcagggtactc	atcttatact	gaaagaacgt	ggtggctcta	aatatgaagc	tgcaaagaag	120
tgggaatttac	ctgccgttac	tatagcttgg	ctggttgaga	ctgctagaac	gggaaagaga	180
gcagacgaaa	gccattttct	gattgaaaat	tcaactaaag	aagaacgaag	tttggaaaca	240
gaaataacaa	atggaatcaa	tctaaattca	gatactgcag	agcatcctgg	cacacgcctg	300
caaaactcaca	gaaaaaacgt	cgttacacct	ttagatatga	accgctttca	gagtaaagct	360
ttccgtgctg	tgggtctcaca	acatgccaga	caggtcgcag	cctcccagca	gtaggacaac	420
cacttcagaa	ggagccctcg	ttacacctgg	atacaccatc	aaaattcctg	tccaaggaca	480
aactcttnaa	gccttccttt	gatgtgaagg	atgcacttgc	agccttggaa	acttcangac	540
gtccagccac	agaaaaggaa	ccgagtcctn	ggccgcgacc	ccctaaggca	attcacacac	600
tggcgccgtc	tagggaccac	ttggggccaac	ttgngaactg	gctactggtc	tgggaatgtn	660
ccgtacatcc	ncaatnaccg	actaagtaac	tggggctnnng	gctatcn		707

<210> 703

<211> 703

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(703)

<223> n = A,T,C or G

<400> 703

acctgccaga	attagcaaga	gctttcttta	agaagacatt	tgtcaaactc	aacaaattga	60
agggttaacac	cttaagagtt	gtagttactg	accagaaata	tggacagact	tcttagactt	120
ggaggaggta	tgcctggact	gggccagggg	ccacctacag	atgtcctgc	agtggacaca	180
gcagaacaag	tctatatctc	ttccctggca	ctgttaaaaa	tgtaaaaaca	tggccgtgct	240
ggagttccaa	tggaaagttat	gggtttgatg	cttgaggagaat	ttgttgatga	ttataccgtc	300
agagtgattg	atgtgtttgc	tatgccacag	tcaggaacag	gtgtcagtgt	ggaggcagtt	360
gatccagtgt	tccaagctaa	aatgttggat	atgttgaaca	gacaggaaag	cccgaatgg	420
ttggttggtt	ggtatcacia	gtcaccctgg	ctttgggttg	tggctttctg	gtgtggatan	480
tcaacacttn	agcagagctt	ttgaagcctt	ttccggaaaa	nagctttggc	antgggttgt	540
ggatcccttt	canaatggta	aaaggaaaagg	ttggtaattg	atgccttcn	aatggancaa	600
ggctaaatna	agggcttagg	acttgaaccc	ggacaanaan	tttaaattng	gncccttaaa	660
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<210> 704

<211> 683
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(683)
 <223> n = A,T,C or G

<400> 704

cgaggtactg	agggatagga	gagtatatgg	gtttggcacc	acaggggtggg	taggcaaaac	60
aatttgggtg	ataaggctca	gatacctgaac	taacctgtaa	gggcttgtct	ggttcgagga	120
caggtgaaat	gggggaattg	taagtagagt	ttataggctt	taaaaggcca	tgctgtagca	180
ggcgagtgat	aacaggcttt	aatcttttta	aagcatgctg	tgggatggga	tattggcatt	240
gagcggggta	aggggtgatta	ggttttaaatg	agatggtaag	gggtccatga	tcggtcacca	300
aggagggagt	agaggtatct	tatacttgtg	ggttaagggtg	gggggatata	agaggaggac	360
gcanaggagg	ctttggattg	ggaaaaaagg	gcaccaatga	gatgtaccnt	aatccaggaa	420
tagtcagggg	aacnnatagt	tanttaaaaag	tgtctcggct	aatangggac	tgggcagtgg	480
ggatactaaa	aaggatgctt	aaaaagtatg	nctaagttgc	accnnattna	ngagtttaaa	540
aaggttaaaa	acttgcctgn	aatcctanca	cnnttttgga	gcnagaaaac	aggcccttna	600
aanaagggtat	ntgaatggga	accccntntt	aaaaggggcg	gcntaatttc	cctgnaaaagt	660
cttnaactnt	nnaaggccct	acn				683

<210> 705
 <211> 463
 <212> DNA
 <213> Homo sapiens

<400> 705

ctgaaagtgc	atgaaggacg	cgattacctg	cgataagctt	cgtggagttg	gaaataaaact	60
atgatacggg	gatttccgaa	tggggtaacc	taactgagca	aacctcagtt	gcattttgat	120
gaatccatag	tcaaattagc	gagacacgtt	gcgaattgaa	acatcttagt	agcaaacagga	180
aaagaaaata	aataatgatt	tcgtcagtag	tggcgagcga	aagcgaaaga	gcccacacct	240
gtaaaaaggg	gttgtaggac	atcttacatt	gagttacaaa	attttatgat	agtagaagaa	300
gttggaagc	ttcaacatag	aagggtgatat	tcctgtatac	gaaatcataa	aatctcatag	360
atgtatcctg	agtagggcgg	ggcaccgtga	aacctgtctt	gaatctgccg	ggaccacccg	420
gtaaggctaa	atactaatac	gacaccgata	gtgaactagt	acc		463

<210> 706
 <211> 651
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(651)
 <223> n = A,T,C or G

<400> 706

actatagcat	ctgtggaaaa	tcttagaaaa	aaacattttc	tccccaccc	tctctcttcc	60
ctgttaagac	catcccaaaa	tgcttcaagt	aaaaaataac	aagtttaagg	ggttaagcac	120
ttttaaagtc	tgattaaggg	gggtgggggga	aaaaagagta	actaccagcc	atttctccaa	180
tggacatctc	ttccacagac	ctcaacgtga	gaactgctct	agtttctata	aactgtaaac	240

ctgtgggtggt	ctgattatcc	tgatattgga	ttttcttgtt	ttctgttaca	ccttgagtca	300
tttgcccttta	ggattctaga	cagacctaa	ggaaaaagaa	ctgaaaacat	attttgcccc	360
cacccccaca	aaaaaaaaata	ctgaaaactc	ccccccgctt	cagttacaca	tccaaactct	420
acattttacaa	aacgaattca	gggtgaggaa	gtaaaacagg	tcattctattc	acaaaactga	480
aatacttcat	taccccaact	aaacatacaa	actgnntaca	gattgctgaa	atgggtcaat	540
ttggctatca	aattcatttg	ggtttcctca	aatcngntaa	aaaaaaaaaa	aaaaaaagct	600
tggnccctngg	ccgnaacacn	cttangggca	aatccanccc	ctgggnggcc	g	651

<210> 707

<211> 625

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(625)

<223> n = A,T,C or G

<400> 707

ggtggcggt	cgggacggag	gacgcgctag	tgttcttctg	tgtggcagtt	cagaatgatg	60
gatcaagcta	gatcagcatt	ctctaacttg	tttggtggag	aaccattgtc	atatacccg	120
ttcagcctgg	ctcggcaagt	agatggcgat	aacagtcatt	tggagatgaa	acttgctgta	180
gatgaagaag	aaaatgctga	caataacaca	aaggccaatg	tcacaaaacc	aaaaaggtgt	240
agtggaagta	tctgctatgg	gactattgct	gtgatcgtct	ttttcttgat	tggatttatg	300
attggctact	tgggctattg	ttaaaggggt	gaaccaaaaa	ctgagtgtga	gagactggca	360
ggaacccgag	tctccagtga	gggaggagcc	aggagaggac	ttcctgcaca	cgctcgcttat	420
attgggatga	cctgaagaga	aagttgtcgg	agaaaactggc	agcacagact	tcaccagcac	480
catcaagctg	ctgaatgaaa	atcatatgtc	cctcgtgang	ctggatctca	aaagatgaaa	540
atctgcttga	tgttgaaatc	aattcgtgaa	ttaactcaca	agttgcgtga	cacatttgta	600
aatcngcaaa	cacntnaaac	tgggn				625

<210> 708

<211> 209

<212> DNA

<213> Homo sapiens

<400> 708

actgttccat	ctggaagtca	agattgggtgc	cacctaaagt	ggttcctgct	gcaaggaact	60
taaggacatc	ctcctccttc	atttgcagga	catcaagggc	tccggacatt	gtgaaagttt	120
ccctttaagt	tacgacggga	atccagaaca	acgccgtatg	gacccctctg	caggtagcac	180
ggaaaaaaaa	aaaaaaaaaa	gcttgtaacc				209

<210> 709

<211> 643

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(643)

<223> n = A,T,C or G

<400> 709

ggtactcctt	agagccagtt	gctgtagaac	tcaaactctt	gctgggcaag	gatgttctgt	60
tcttgaagga	ctgtgtaggc	ccagaagtgg	agaaagcctg	tgccaaccca	gctgctgggt	120
ctgtcatcct	gctgggagaa	ctccgctttc	atgtggagga	agaagggaag	ggaaaagatg	180
cttctgggaa	caagggttaa	gccgagccag	ccaaaataga	agctttccga	gcttcacttt	240
ccaagctagg	ggatgtctat	gtcaatgatg	cttttggcac	tgctcacaga	gccacacagct	300
ccatggtagg	agtcaatctg	ccacagaang	ctggtggggt	tttgatgaag	aaggagctga	360
actactttgc	aaaggccttg	gagagcccag	agcgaccctt	cctggccatt	ctnggcggac	420
taaagttgca	gaccagatcc	agctcatcaa	taatatgctg	gacaaaagtc	aatgagatga	480
ttattgggtg	tgggaatggct	tttaccttcc	ttaangngct	caacaccatg	gagattggca	540
cttctctggg	tgatgaaaaa	gggncccgag	ttgcaaagac	tnatgtccaa	actgagaaaa	600
agggntgaan	ataccttgcc	tgtgctttgc	nctgttncaa	ttg		643

<210> 710

<211> 390

<212> DNA

<213> Homo sapiens

<400> 710

ggtactcttc	tagcatttag	atctacactc	tgcagttaaa	gatggggaaa	ctgagggcag	60
agaggttaac	agatttatct	aagggtcccca	gcagaattga	cagttgaaca	gagctagagg	120
ccatgtctcc	tgcatagtct	ttccctgtcc	tgacaccagg	caagaaaagc	gcagagaaat	180
cggtgtctga	cgatttttga	aatgagaaca	atctcaaaaa	aaaaaaaaaa	gaaaagagaa	240
aaaaaagact	agccagccag	gaagatgaat	cctagcttct	tccattggaa	aatttaagac	300
aagttcaaca	acaaaacatt	tgctctgggg	ggcagggaaa	acacagatgt	gttgcaaaag	360
taggttgaag	ggacctctct	cttaccacgt				390

<210> 711

<211> 683

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (683)

<223> n = A,T,C or G

<400> 711

cgaggtcaag	aaggcagccc	gagaagaaac	gggaggacaa	agctaagaag	aagcacgaca	60
ggaaatccaa	acgcctggat	gaggaggagg	aggacaatga	aggcggggag	tggaagagg	120
tccggggcgg	agtgccgttg	gttaaggaga	agccaaaaat	gtttgccaag	ggaaactgaga	180
tcacccatgc	tggtgttatc	aagaaactga	atgagatcct	acaggcacga	ggcaagaagg	240
gaactgatcg	tgctgcccag	attgagctgc	tgcaactgct	ggttcagatt	gcagcggaaa	300
acaacctggg	agagggcgct	attgtcaaga	tcaagttcaa	tatcatcgcc	tctctctatg	360
actacaaccc	caacctggca	acctacatga	agccagagat	gtgggggaag	tgccctggact	420
gcatcaatga	gctgatggat	atcctgtttg	caaatcccaa	catttttgnt	ggggggagaat	480
attccttgga	gaaaagtggg	aacctgcaca	acgctgaccc	agcccttgcg	tgccctggc	540
ttgcatnctn	acttttgggt	ggaaccnaat	gggttaaaga	aattanccca	ataatgcca	600
atacttgacc	cttanttccc	aaaaatacct	tgcccggggcg	ggcccnttca	aaagggccaa	660
attccanenc	ccttgggggc	cgg				683

<210> 712

<211> 605

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(605)

<223> n = A,T,C or G

<400> 712

ggtacaagct	tttttttttt	tttttttttt	tttctaaaca	atagtgcctt	attgataaaa	60
ggttagttta	aatggatata	aaattgctgt	gtaaaataag	tgttttcaaa	atacatttct	120
ataggtagag	actatgtctt	agtaaaagag	cagttatcta	ttatcaaaaag	tatctattta	180
nattttgggta	gtaaaaccaa	aggggatcag	aagtgtanca	gtgtgggtcc	tccctccctg	240
catagctgtt	accaggaggg	agcgtgcctg	aagtacttgg	aggaacgaag	aataaaggag	300
attgtgaaga	aacattctca	gcttattgga	tatcccatta	ctctttttgt	ggagaaggaa	360
ccgtgataaa	gaagtaagcg	atgatgaggg	tgaagaaaag	gaagaccaag	aagaagaata	420
ngaanaagaa	gagaaagagt	cggaagacaa	acctgaaatt	gaanatgttg	gtctgatgag	480
gaagaaaaaa	gaaggtgggtg	cnagaagaan	anaagaagat	taggaaagtc	ctgccggcgg	540
ccgtcaangc	aatccaccct	gcggcgtcta	ngaccactgn	ncactgngat	atgctctgtc	600
tggnna						605

<210> 713

<211> 376

<212> DNA

<213> Homo sapiens

<400> 713

ggtaccaagg	ttattgatca	agtcagcctt	ggtcattcca	attccagtat	ccacaatagt	60
gagagttcga	tcttgtttgt	tcggtataag	gttaatatgc	agctctttcc	cagagtctaa	120
tttactggga	tctgtcaagc	tttcataccg	gattttgtcc	aatgcatctg	atgaatttga	180
aatgagctct	ctcagaaaga	tctctttgtt	cgagtagaaa	gtattgatga	tcaatgacat	240
caactgggca	atttctgcct	gaaaggcgaa	cgtctcaacc	tcctcctcct	ccatcgggtg	300
gtcttggtgc	tgggtttcct	caggcatctt	ggctaagtga	cccgcacagg	accaacggca	360
cagccacacc	gacctg					376

<210> 714

<211> 378

<212> DNA

<213> Homo sapiens

<400> 714

cgaggtagca	aggttattga	tcaagtcagc	cttgggtcatt	ccaattccag	tatccacaat	60
agtgagagtt	cgatcttgtt	tggtcgggtat	aagggttaata	tgtagctctt	tcccagagtc	120
taattttactg	ggatctgtca	agctttcata	ccggattttg	tccaatgcat	ctgatgaatt	180
tgaaatgagc	tctctcagaa	agatctcttt	gttcgagtag	aaagtattga	tgatcaatga	240
catcaactgg	gcaatttctg	cctgaaaggc	gaacgtctca	acctcctcct	cctccatcgg	300
ttggtcttgg	gtctgggttt	cctcaggcat	cttgggctaag	tgaccgcaca	ggaccaacgg	360
cacagccaca	ccgacctg					378

<210> 715

<211> 310

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(310)
 <223> n = A,T,C or G

<400> 715

actttttgagt	gtgtgtgtgc	atgtgtgtgt	gtgtgtgtgt	gtgtgtgtat	gtgagagatt	60
ctgtgatcctt	ttaaagtgtt	actttttgta	aacgacaaga	ataattcaat	tttaaagact	120
caaggtgggc	agtaaataac	aggcatttgt	tcactgaagg	tgattcacca	aaatagtctt	180
ctcaaattag	aaagttaacc	ccatgtcctc	agcattttctt	ttctggccaa	aagcagtaaa	240
tttgctagca	gtaaaagatg	aagttttata	cacacagcan	aaaaaaaaaa	aaaaaaaaaa	300
agcttgtacc						310

<210> 716
 <211> 624
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 716

ggtaccgatt	gccaggtgt	ggtctcctcc	cagtgtgaca	cggtgttagc	catctgacac	60
agctctgcta	accacctcag	ccagttcctg	gttggcaaga	cccactgagc	gtggattcac	120
tatcagggttg	ttgtagagat	catctttggg	gactggagta	aaattcaa	ctccaaagtc	180
tttttaggtgg	cagcccaa	tggagagcct	tttcatcaag	ccagcttctc	ttatggcagc	240
gggaccatgc	tccactccgt	ttcttttctg	tccttgtgag	aacggggctc	ctatcacagc	300
cacggagtg	acggatttct	tcaggatgga	atgcactcgc	gtctggagga	gacgcgagag	360
gctgccctta	gggacatgat	cccgcagcac	tgagaatctc	caaggcagag	gctccacatg	420
gccgggggtg	tgaaggtctc	aaacataatc	tgagtcattc	tctctctgtt	ggccttgggg	480
ttcaaggggg	cctcggcaca	gcactgggtg	ctcttnccgg	ccacgcgcac	ttgtgtaaaa	540
gtgngtgcca	nactttcatg	cgnccaattg	gngaccatcc	tctnatggga	ctgccggggc	600
cgttnaagg	gaatcacent	ggng				624

<210> 717
 <211> 652
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(652)
 <223> n = A,T,C or G

<400> 717

cgaggtacaa	aaattagctg	ggtgtcgtga	tgggtgcctg	taatcacagc	tatgtgggag	60
gctgaggcag	gagaattgct	tgaacctggg	aggcgaagg	tgcagtgagc	caagatcacg	120
tcactgcact	ccagcctctt	tgacagagtg	cgactctgtc	tcagaaaaaa	aaaaaaaaaa	180
aagaaaagag	attacatatt	atttagaaaa	cagcagctaa	acagtctttg	ggtctctggc	240
aaagatgaag	tgagccagtc	ttcttccgac	taaatcacca	actggacaaa	gttctcagct	300
ggaaaaacact	ccccttctg	gatcctgcgc	ccagaagtgg	tagcaagaac	ttcttggga	360

agaatggagc	agaaccttcc	tgagcctgag	gaaccaacaa	aaagtcaaag	aatgaactct	420
ttcgaacaca	aaataaaatt	tctcaaagcc	cagggtcatgc	tttttctgta	aatctttatc	480
cctgcgtag	tatggacatg	acatagtcca	gagagaaaaat	tctcagccta	ccttatgcnc	540
aagaaaaatgc	catgatgccg	ccagcttggt	gatgcccnag	gacantgctn	ttgangggccg	600
gaaaaataggn	ctgcagcngg	gaaccaaagg	ctgttnncct	gnntcttaaa	ag	652

<210> 718
 <211> 544
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(544)
 <223> n = A,T,C or G

<400> 718	
cacagagggga	gtgaggtgca tttgcagtca gctttcgctc accactaaga tggatgcaga 60
gcatccggaa	ctcaggagtt acgctcagag ccaagggttg tggacgggag agggcgagtt 120
caatttttcc	gaagtctttt ctccagttga ggatcatcta gactgcggtg ctggcaaaga 180
cagcttagaa	aaacaagaag aaagcatcac agtgcagact atgatgaaca ccttacggga 240
caaagccagc	ggagtgtgca tagactctga gtttttcctc accacagcca gtggagtgtc 300
tgtcctgccg	cagaatagaa gctctccgtg cattcactac ttcactggaa cccctgatcc 360
ttccagggtcc	atattcaagc ttttcatctt tgggtgatgac gtaaaacttg tccccaaaac 420
acaagtctcc	ctgttttggg ggatgacgac ccttgccaaa aaggagcctc ggggtncagg 480
agaaaccnga	accggccggc attgaacctg taccttgncc gggccggccg nttcnaangg 540
gcga	

<210> 719
 <211> 626
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(626)
 <223> n = A,T,C or G

<400> 719	
accaaagaaa	agctgaacag gaaaatgaga agagaagaaa tgtagaaaat gaagtttcta 60
cattaaagga	tcagttggaa gacttaaaga aagtcagtca gaattcacag cttgctaattg 120
agaagctgtc	ccagttacaa aagcagctag aagaagccaa tgacttactt aggacagaat 180
cggacacagc	tgtaagattg aggaagagtc acacagagat gaacaagtca attagtcagt 240
tagagtccct	gaacagagag ttgcaagaga gaaatcgaat tttagagaat tctaagtcac 300
aaacagacaa	agattattac cagctgcaag ctatattaga agctgaacga agagacagag 360
gtcatgattc	tgagatgatt ggagaccttc aagctcgaat tacatcttta nagaggaggt 420
gaacatctca	acataatctc gaaaaagtgg aaggagaaaag aaaagagctc aagacatgct 480
taatcactca	gaaaaggaaa gaatatattag agatagattt aactacaact taaatcnttc 540
acacggtaga	ccagangtaa tgacccagc accaagctcg ttactgcaac atcattnttg 600
agaggcaagc	ttggcatggg taaaaa

<210> 720
 <211> 469

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(469)
<223> n = A,T,C or G

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<400> 720
ggtactcttt agcattaaat tacatcgtgc atatacaact acacccattt agatttgcct      60
tggaatataa tttcaaggcc ttaaataatta aaaataatTT tataactatt tcatagtTTa      120
attggctctt aaatagTTTT gctagggagg aaacattTTg tgttctTTaa gaaattgata      180
tgtgtaaatg tgttcaactta aatcttgaga aaacctaagg atgaagtctg ttgttttgtt      240
tttcttaaaa aaggaaaaaa gaaccaaaga aaaatgTTga agaacaagaa tatttaccat      300
taaaaagaag aaacattatc caacaaaaag gagacatata gatttgaaaa cacttatttt      360
actgncttca acaacaacaa caaacagata ggcaggggaa gtccagagga ctccagaattg      420
aagcagctct atacaataat gaaggtggac ctgccgggag ggcgctcga      469

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<210> 721
<211> 644
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(644)
<223> n = A,T,C or G

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<400> 721
acaaggtcaa tctcacttgc agtgaccaca atccggacca ggggtggagtc atctgtgcca      60
gcacctttca tagcatagta gagcctctca gcaaagaagg cagggcggtt cagggcacac      120
tgcaagatgg tcttcaaacc actttctaca tatccggaaa actcacggct cacactgctt      180
aacaagtctc gattagccat cctagaataa gcctccatgg tagctctcag ctgaggaaag      240
cttcttgtgg caaggatcat gttaaagcaa gattcatcgg tccctagtct cccctcacca      300
gcttgataga gacgtgagc atcttctcga gccatttggg ggtttatact ctggttctca      360
tcacgatttc cctggcacat ggacacaagt aaacgTTcaa aatgtcctga tgtatctgac      420
ctaattgncct tttcaaggtc tcgtccaaat tctgactgat aacatctgac aatttctcgg      480
atttctgat ttgggtcttgn gcacaaaatc ttcaatcaat acaccgttcc tgagttcctg      540
ntnctgcat tgnTTTccga agcttcaggc atcgnaatcc taggangctt gaaaaggccn      600
ggatcagttt ttcctattcn cttactttga ttgaaacntt gata      644

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<210> 722
<211> 510
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(510)
<223> n = A,T,C or G

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<400> 722
cgaggtcggg gatctcgccg gctttacggt cacctcgggt tctgcagcac cctccgcttc      60

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ctctcctagg	cgacgagacc	cagtggctag	aagttcacca	tgtctattct	caagatccat	120
gccagggaga	tctttgactc	tcgcgggaat	cccactgttg	aggttgatct	cttcacctca	180
aaaggtctct	tcagagctgc	tgtgcccagt	ggtgcttcaa	ctggtatcta	tgaggcccta	240
gagctccggg	acaatgataa	gactcgctat	atggggaagg	gtgtctcaaa	ggctgttgag	300
cacatcaata	aaactattgc	gcctgccctg	gttagcaaga	aactgaacgt	cacagaacaa	360
gagaagattg	acaaactgat	gatcgagatg	gatggaacag	aaaataaatc	taagtttggt	420
gccaacgcca	ttctgggggt	gtcccttgcc	gctgcaaagc	tggtgccgtt	gagaangggg	480
ccccctgtac	ctgcccnggc	gccgtcgaaa				510

<210> 723
 <211> 640
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(640)
 <223> n = A,T,C or G

<400> 723	
ggtaccaagc	gtatcagcat
cctgcctgtg	aatctgtaat
ccttttcctc	aaactcttgg
ggccagtctg	agaaggagag
attagttcag	ctactgacct
ctagtagatg	gtttggaaga
tcagagtgtc	cctcattaag
ctgtatggaa	attctgacca
catctacagc	tctttccaac
ggagaaactt	tcctgggaac
aacattgcaa	ccnaccattg
gcctcacatg	ccagtgggct
acatttgagg	aaggcaaagc
gtggccaccc	gcctctcttc
gccagggagc	tggactcatc
caggctgaga	ctgaagatac
cgtgatgaga	atgaagagga
ccagcgaatc	ggtggccatg
caatcatgag	aaaagttgtc
catctatttt	ggcactcggg
gcttcnatgg	aagatgagcn
tttaaatang	

<210> 724
 <211> 593
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(593)
 <223> n = A,T,C or G

<400> 724	
ggtacctgcg	cgccctcgac
cagacaaaga	gatcgtgcag
ggaactacat	catggacttc
atgaccgcaa	gtgcatgaca
aggggtgagaa	ggaggggctg
agatgagagt	ggaaggtgtg
gcagacaacc	ttgtcccaag
gcatgaggca	aaaatgtcca
cttttctttc	ttaaacaaac
agcaatcacc	atgcgcgtct
gtcaatgtgg	ccttgcgcaa
gacgggtgacc	atatgatcat
caggttgagg	aggagtttga
acagtgaagt	gggacggaga
ggctggaccc	agtggatcga
gtctgcaagc	aagtattcaa
gaatcagcag	gatgtgtggg
ccacccccag	cattgttagc
ctgcataagt	gatctgtgtt
atgaccactn	nncactgcn
aatcgccaac	ttgctgaagc
ccgcacgctg	agcactttta
ggaggatctg	acaggcatag
caagctccag	tgtgtgcaga
gggtgatgag	ctgcacctgg
gaaggtgcag	tgaggcccag
ccaggatccc	cttttgcaca
agatctgctc	ttgctttgca
agaaaaactg	ccggcggcca
tatgctantg	tct

<210> 725
 <211> 606
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(606)
 <223> n = A,T,C or G

<400> 725

acngcagctg	ctccacggcc	ccagcacgaa	atgtatcaca	ggcagcaatg	aggacactga	60
agccattctc	taacaaccag	aaggaaatct	tggcaagatt	agtagatttc	cccactccat	120
taacgccgca	gaaggtgacg	acataagggc	gctggcgacg	ctgggcatcc	atgatgtccc	180
ggagcatgtc	tacacgacgc	tgtggctgca	gaatctgcac	cagggactcc	tgtagggttt	240
gctttactgt	ggaagtcacc	gtgctgaacg	tccccatcac	cttcccttcc	aacttggttg	300
caacagattc	acagagctgg	acggcaatgt	ctgcagccac	gttcttagca	atgagatgat	360
cacgcatctt	gtccagcaca	gattccatgt	cttcacgact	caagctcttt	gaaccacaaa	420
ggcccttcag	cataccaaac	atgccaccca	gtgttccttg	gtcgactan	gtttggtaga	480
gttttgagca	gcccttcgtc	atcaanctgt	gcatccagat	ctgaactgcc	ccagaccagc	540
cttgaatagg	tgatgcctaa	caggagctag	ggtcatgnng	tggagactgg	cgncacctag	600
gcaatc						606

<210> 726
 <211> 594
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(594)
 <223> n = A,T,C or G

<400> 726

accacatcat	ccatgctgac	atctaccgct	ggtttaacat	ttcgtttgat	atttttggtc	60
gcaccaccac	tccacagcag	acaaaaatca	cccaggacat	tttccagcag	ttgctgaaac	120
gaggttttgt	gctgcaagat	actgtggagc	aactgcatg	tgagcactgt	gctcgcttcc	180
tggctgaccg	cttcgtggag	ggcgtgtgtc	ccttctgttg	ctatgaggag	gctcggggtg	240
accagtgtga	caagtgtggc	aagctcatca	atgctgtcga	gcttaagaag	cctcagtgtg	300
aagtctgccg	atcatgccct	gtggtgcagt	cgagccagca	cctgtttctg	gacctgccta	360
agctggagaa	gcgactggag	gagtggttgg	ggaggacatt	gcctgcagtg	actggacacc	420
caatgcccg	ttatcaccg	ttcttgcttc	nggatggcct	caaccacgct	gataaaccga	480
gacctcaatg	gggaacctgt	cctcggcgga	cacctaggca	atcacacact	gcggccgtct	540
agtgatccac	tcgaccactt	gcgatatgga	tantgtctgg	taatgatcgt	acat	594

<210> 727
 <211> 665
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(665)

<223> n = A,T,C or G

<400> 727

gcgtggtcgc	gccgaggtgc	cgtcaaggag	tagaaattgg	tatgcttaga	agcagattct	60
aaaagcagtt	tctcttcaga	acatcttttt	tcataccact	tgataagcat	cttgaaacac	120
catggctgta	gctgcagtaa	aatgggtgat	gtcaaagaga	actatcttga	aacatttatt	180
tccagtccaa	aatggagctt	tatatgtgtg	ttgtcataaa	tctacgtatt	ctcctctacc	240
agatgactat	aattgcaacg	tagagcttgc	tctgacttct	gatggcagga	caatagtatg	300
ctaccaccct	tctgtggaca	ttccatatga	acacacaaaa	cctatccctc	ggccagatct	360
gtgcataata	atgaagaaac	acatgatcaa	gtgctgaaaa	ccagattgga	agaaaaagtt	420
gaacaccttg	aggaaagacc	tatgatngaa	ccacttancc	aaatggctnt	tactactaag	480
cacccgtggn	attcctcatg	gacngnntac	agatgtcnta	agaatctgaa	tcctccaaag	540
accgatgatg	ccganggtcc	tggggggatc	aaaagaaaaag	ggncccattt	gcatttggna	600
aaagccanct	gggggttccn	tattttttgt	aaggaataat	gntaaaaatc	tttctntttt	660
anaag						665

<210> 728

<211> 624

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(624)

<223> n = A,T,C or G

<400> 728

ggttacccag	gcagtatctc	tagagtcctt	aacttaatat	tagtaactaa	agaaaagggg	60
tgcgctcggt	gcaggactta	acctaacatc	tcacgacacg	agctgacgac	aaccatgcac	120
catctgtcat	tctgttaacc	tccactatat	ctctatagct	ttgcagaaga	tgtcaagagt	180
gggtaagggt	ctacgcgtag	aatcaaatta	aaccacatgc	tccaccgctt	gtgcgggttc	240
ccgtcaattc	ctttaaattt	cactcttgcg	agcatactac	tcaggcggtat	catttaacgc	300
gtagctgctg	ttagtgaat	tattccacca	actaatgatc	atcgttttacg	gcgtggacta	360
ccagggtatc	taatcctggt	tgctccccac	gcttttcgtcc	cttagtgcaa	tatataacca	420
gtagctgctg	ttcgcctatt	gggntcttcc	taatatctac	gcattccacc	gcttcactag	480
gaattccggt	acctctttat	aatctatttg	gcagtatcca	agcggctgaa	gttgagctta	540
acatttactt	cagacttaca	aaaactacgc	gcttacgccc	aatattccga	tacgttgcac	600
natgattacc	gggggtgtgcc	aaaa				624

<210> 729

<211> 449

<212> DNA

<213> Homo sapiens

<400> 729

actgacacac	aaagtgcctt	cactggacct	tacagttctc	actgccgttg	gactccagtc	60
cagctttggg	gctggggaca	agtcggcctc	gcttgaccct	caggccctct	ctggggctgt	120
cagtcggact	tctctcagga	agattattga	ctgggacgga	tttcgtggtg	ggttctcgga	180
ggatggtgcc	tgaatctact	gggctccgct	gagcaacttt	gaccttttgt	gatctgctgc	240
caccagctgt	tggtttgag	gactctgcaa	gattttcttt	gccgagactc	agtggggata	300
gcgctaactt	ctgtgcaacc	aggcgggggc	tggtcccagt	tgccatgggt	gttcttcgca	360
ggatatatgg	gctaagtctt	tcctgtcggg	atgtcagcaa	accctttctt	tacaacttct	420

ggaagtcctt ctggctcaaa ctgagttacc

449

<210> 730
 <211> 646
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(646)
 <223> n = A,T,C or G

<400> 730
 actcattaat cagggagcct caatcttagt aaaagattac attttgaaga ggacacctat 60
 tcatgcagca gcaacaaatg gtcattcaga atgcttacgg ctattaatag gaaatgcaga 120
 accacagaat gcagtggtata ttcaagatgg aaatggacag acgcctctga tgctatctgt 180
 tctcaacggg cacacagact gtgtttactc attgctgaac aaaggagcaa atgtagatgc 240
 caaagataag tggggaagga cagcgttgca tagaggggca gttacaggcc atgaagaatg 300
 tgtagatgca ttacttcaac atggtgctaa gtgcttactt cgggatagca ggggcccggg 360
 cgctataca cctgtctgct gcctgtggac acattgggtgt tcttggagcc cttttgcagt 420
 cagcagcatc tatggatgca aatccagcca cagcagacaa tcatggatat ccgnacttac 480
 tgggcttgta caatgggtcac gagacatgtg tagaactgnt tttagaacag gaagttttcc 540
 agaaaacgga aggaaatgct tttagtccat tgcattgngc cgtgataaat gccaccaaag 600
 ggctgttaaa ngttaattga tcnttanggg ccacattggg aacccc 646

<210> 731
 <211> 639
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(639)
 <223> n = A,T,C or G

<400> 731
 acagacttgt ttttgagtgt tgagtagcag ggacaaaata aggggaatggt attttttaag 60
 aaaattcatt ttcattgttg tctccttcc tttctgtgaa agtcctcata ctgagaaatt 120
 tgtatatttt atattaaatc acttactatt gatttttgtt gtgattttca aagggtggatt 180
 cccacagata aaatcttggc tattgcccac aacatagtaa aggggtcacgt gtgacttttt 240
 ataataaggaa gaaaattctg cctttgtgag tgcacatgtc cacatttcat cctccttcc 300
 ctcaaaaacc tagagagggg cattaaagaa ttgttgatgt atatgcaatg tctgttaaag 360
 catgcactat gtatttcac ctcatttatt ggggtctggga ctgaagtttt taaccacat 420
 ggacctaac tacttttttg gataaaattc tctgtttggt acaggcaaaa ttctggtatg 480
 gcgtgaatgc catgggtcat tctgaatata ttttttctgg aatttatcat acacgatgtt 540
 gcaatacgtg ctttggtttt taatttgaag ccaacttttc tactgttgaa agacattttt 600
 gccaaactggn ccttctanaa tggagtctaa gttaggngc 639

<210> 732
 <211> 538
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (538)
 <223> n = A,T,C or G

<400> 732

ggtactcgtc	ccttcaaaca	gtaaacaaga	aagtgcagac	agtgctgcca	gagacaggag	60
gattttcaca	tgagactgaa	aaagccgaca	cacccttaca	actaagtcac	ggtcgagtcg	120
gacctgccat	ccacctccac	cagtcctcctg	aaccgcggcag	gtcagagttt	tctctaattc	180
tattccccgg	catcaagtga	acactagaac	tcacacggaa	ggccccgagc	aaccactggc	240
ctcggggctg	ggtgcaccca	ctcctcacc	agggagattg	tcacaaaaca	cgctaggggg	300
cagagacgct	gtaaactgga	cacacacgga	acacaatgcc	ctttccactt	acacagcggtg	360
gggatgataa	aaaggaatct	tttgagcaag	tctataattt	tacagaattt	agaggtggga	420
aagatggcca	attttccttc	tttatgcctg	gggcagacca	cctgcttctg	gggtaaagtg	480
tttgagaagg	aaaaagaccc	tgnacctgcc	nngggcggcg	ctcgaaaggc	caattcna	538

<210> 733
 <211> 351
 <212> DNA
 <213> Homo sapiens

<400> 733

cgaggtaccc	tatggcctat	gttgactata	agactgtgct	gcagattgat	gataatgtga	60
cgtcagccgt	agaaggcatc	aacagaatga	ccagagctct	catggactcg	cttgggcctg	120
agtggcgcc	gaagctgccc	tcaatcccct	tggcgccctg	ttcagttcag	aagaggtgga	180
attccttgcc	ttcggagaa	cacaaagaga	tggctaaaag	caaataccaa	gaaaccacag	240
ctacaaagaa	cagagtgcct	tctgctgggg	atgtggagaa	agccagagtt	ctgaaggaag	300
aaggcaatga	gcttgtaaag	aagggaacc	ataagaaagc	tattgagaag	t	351

<210> 734
 <211> 625
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (625)
 <223> n = A,T,C or G

<400> 734

cgaggtacaa	tccttgacct	tgtgcattat	agcattccat	tagcaagagt	tgtaccatcc	60
ttcatccaaa	tggcaacatc	acagagctcc	tcctgaagga	aggtttcgca	cgctgtgtgg	120
actggtcgat	tgcagtttac	acccggggcg	cagaaaagct	gagggcggca	gagaggtttg	180
ccaaagagcg	caggctgaga	atatggagag	actatgtggc	tcccacagct	aatttgacc	240
aaaaggacaa	gcagtttggt	gccaaaggtga	tgcaggttct	gaatgctgat	gccattgttg	300
tgaagctgaa	ctcaggcgat	tacaagacga	ttcacctgtc	cagcatccga	ccaccgaggc	360
tggaggggga	gaacacctag	gataagaaca	agaaactgcg	tcccctgtat	gacattcctt	420
acatgtttga	ggccccggga	atttcttcga	aaaaagctta	ttgggaaaaa	gtcaatgtga	480
cngtggacta	cattagacca	ccagcccagc	cacagagaca	gtgctgcctt	tcaaacgtcc	540
tgccggggcg	ccgtcaaagg	cnattcacca	tggcggcgtc	tatggaccac	tcggaccact	600
gggaactggc	tactgtctgg	gaatg				625

<210> 735

<211> 677
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(677)
 <223> n = A,T,C or G

<400> 735
 acttttctatg agaagcgtat gaccacagaa gttgctgctg acgctctggg tgaagaatgg 60
 aaggggttatg tgggtccgaat cagtgggtggg aacgacaaac aaggtttccc catgaagcag 120
 ggtgtcttga cccatggccg tgtccgcctg ctactgagta aggggcattc ctgttacaga 180
 ccaaggagaa ctggagaaaag aaagagaaaa tcagttcgtg gttgcattgt ggatgcaaat 240
 ctgagcgttc tcaacttggg tattgtaaaa aaaggagaga aggatattcc tggactgact 300
 gatactacag tgcctcgccg cctgggcccc aaaagagcta gcagaatccg caaacttttc 360
 aatctctcta aagaagatga tgtccgccag tatgttgtaa gaaagccctt aaatanngaa 420
 ggtaagaaac ctaggaccaa agcaccaaga ttcaanngtc ttggtactcc acgtgtcctg 480
 cagcacaaac cggcgggtga ttgctntnna aaaaccagcg taccttnggc cgngaacacc 540
 cttanggccg aatttccagn ccacttggcn ggccgntnct aatgggaatc cancttcggt 600
 acccannctt ggcggaatca tgggcatanc ttggttcctt gggtgaaaat ggtattccgt 660
 tcaaaattcc nccaann 677

<210> 736
 <211> 651
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(651)
 <223> n = A,T,C or G

<400> 736
 ggtactattg aagaactggc tccaaatcaa tatgtgatta gtggtggagt agctattctt 60
 aattctacaa ccattgaaat ctcagagctt cccgtcagaa catggaccca gacatacaaa 120
 gaacaagttc tagaaccat gttgaatggc accgagaaga cacctcctct cataacagac 180
 tatagggaaat accatacaga taccactgtg aaatttggtg tgaagatgac tgaagaaaaa 240
 ctggcagagg cagagagagt tggactacac aaagtcttca aactccaaac tagtctcaca 300
 tgcaactcta tgggtgctttt tgaccacgta ggctgtttaa agaaatatga cacggtgttg 360
 gatattctaa gagacttttt tgaactcaga cttaaataat atggattaag aaaagaatgg 420
 ctcttaggaa tgcttggtgc tgaatctgct aaactgaata atcaggctcg ctttatctta 480
 gagaaaatag atggcaaaat aatcattgga aataagccta agaaagaatt aattaaaggt 540
 ctgattcaga ngggatatga ttcggatcct gtgaaggcnt ggaaagaaac ccannaaang 600
 gttcngatta agaaaaaaat naanaagagn gccancaaag gaacttgaaa n 651

<210> 737
 <211> 404
 <212> DNA
 <213> Homo sapiens

<400> 737
 cgagggtactg tgtggccacc atgccatgtc tagagccagg ctcccgttgt tggccatgcc 60

ttgctttgag	gctttggctc	tgcacgagac	gccgcagaga	acgtcttgat	gcctcgctcc	120
ccttatcctc	accacttcct	tcttaggggt	ggaaatgctg	gatcaaaggg	tcttcacgtt	180
ttctgacttt	tccacgcatg	gggttagcct	gtgctccgga	gaccctgtga	gcacacatgt	240
ccccagcgca	gcttgtgact	cctgcctctc	tgaccccgcc	aggtggatta	caaagctgac	300
gagtggctga	tgaagaacat	ggatccccctg	aatgacaaca	tcgccacact	gctccaccag	360
tcctctgaca	agtttgtctc	ggagctgtgg	aaggatggta	cctg		404

<210> 738

<211> 250

<212> DNA

<213> Homo sapiens

<400> 738

acatcaaaga	ttacatgaaa	tcaatcaaag	ggaaacttga	agaacagaga	ccagaaagag	60
taaaaccttt	tatgacaggg	gctgcagaac	aaatcaagca	catccttgct	aatttcacaaa	120
actaccagtt	ctttattggt	gaaaacatga	atccagatgg	catgggtgct	ctattggact	180
accgtgagga	tggtgtgacc	ccatatatga	ttttctttaa	ggatgggtta	gaaatggaaa	240
aaaaaaaaacc						250

<210> 739

<211> 582

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(582)

<223> n = A,T,C or G

<400> 739

acagtaagga	caaccccaac	ctgctgttca	acatgtgtgg	cttcgagtgc	cgcacacctgc	60
ctaagtgccg	caccagctat	gaggagttca	cccacaagga	cgggggtctgg	aacctgcaga	120
atgagggttac	taaggagcgc	acagctcagt	gtttcctgcg	tgtggacgat	gagtcaatgc	180
agcgcttcca	caaccgcgtg	cgtcagattc	tcatggcctc	tggtgccacc	accttcacca	240
agattgtgaa	taagtggaaat	acagctctca	ttggccttat	gacatacttt	cgggaggctg	300
tggtgaacac	ccaagagctc	ttggacttac	tggtgaagtg	tgagaacaaa	atccagacac	360
gtatcaagat	tggactcaac	tccaagatgc	caagtccgtc	cccccggttg	tgttctacac	420
ccctaaggag	ttgggtggac	tcggcatgct	ctcaatgggc	catgtgctca	tnccccaatc	480
cgacctcagg	tgggtccaaa	cagacngatg	taggtatcac	acactttcgt	tcaggaatga	540
gccttgaaga	agaccactta	ttcccacttg	nacctcggcc	gg		582

<210> 740

<211> 576

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(576)

<223> n = A,T,C or G

<400> 740

ggtaggacac	cgaaccctg	attcagacag	caaaaaccac	gctgggctcc	aaagtgggtca	60
------------	-----------	------------	------------	------------	-------------	----

acagttgtca	ccgacagatg	gctgagattg	ctgtgaatgc	cgtcctcact	gtagcagata	120
tggagcggag	agacgttgac	tttgagctta	tcaaagtaga	aggcaaagtg	ggcggcaggc	180
tggaggacac	taaactgatt	aagggcgtga	ttgtggacaa	ggatttcagt	cacccacaga	240
tgccaaaaaa	agtggaaagat	gcgaagattg	caattctcac	atgtccattt	gaaccaccca	300
aaccaaaaac	aaagcataag	ctggatgtga	cctctgtcga	agattataaa	gcccttcaga	360
aatacgaaaa	ggagaaattt	gaagagatga	ttcaacaaat	taaagagact	ggtgctaacc	420
tacaatttgt	cagtggggct	ttgatgatga	agcaaatac	ttacttcttc	agaacacttg	480
ccttgcggtt	ccttggtagg	aggacctgaa	attgagctga	ttgccatcgc	aacaggangg	540
cggatcgccc	cagttctcaa	gctnacagcc	gagaan			576

<210> 741

<211> 579

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (579)

<223> n = A,T,C or G

<400> 741

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actaaaatga	gggatggggg	aaagtaaaaag	atgttttttt	ttttttgaga	ctcgctttgt	120
cacccaggct	ggagtgcaat	ggcacaaatct	caactcacccg	caacctccgc	ctcccggtt	180
caagcgattc	tcctgcctca	gcctcccgag	tagttgggat	tacaggcgcc	tgctccatg	240
cctggctaata	tttgtatttt	tagtagagac	agggtttctt	catgttggtc	aggctggtct	300
caaactccta	acctcgtgat	ccgcctgcct	cgacctccca	aagtgcgtggg	attacaggca	360
tgagccacca	tgcccagcca	aagatcattt	ttttatatag	acttcaccct	ttgtaaatac	420
tgtactgggg	gagtatatag	tagaaaaaaa	gtttagttaa	aacatttggt	tacaaattaa	480
cctttaaaaa	tntaattact	gctaataata	gaaggctgtt	ncccttaagg	aaaattagnng	540
ccatttttga	aatganactt	gggccataaa	tncaggtgg			579

<210> 742

<211> 578

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (578)

<223> n = A,T,C or G

<400> 742

ggtacttttg	gatgctttac	taggtgtttt	ccattagaat	tagaccttga	ttttaaatcc	60
aagcaagctt	gaagcccctt	ggcttacagc	atttgcctgc	tgaataactaa	acactcacat	120
ggcaagagtt	gctctggaga	ggtagggccca	gaggaatgct	gctgcactgc	caactcaggc	180
acatgcttag	ctgtaaaggg	aagcgaggtg	aagtcgtcct	gcagcgattt	agagtaaaag	240
tctacccctc	tgaagcacta	ttaagcgctt	aaccgtatat	ttaaataacta	ccatgtgcta	300
tctactgagg	aagattcatg	ttcaattatt	tggaaataat	gcaagcatcc	actaagggcc	360
tttaagcttt	ctttgattat	aattaagggt	catttttaagt	tnnttttttt	ctttcaacca	420
gtgtgccatc	tccaatatatt	ctatagtata	ccaaccaccc	caggaatgca	ctttaacaat	480
atcagggatt	tatataacca	aatagtttca	aatccaacaa	aattcccttt	atgaactttc	540
gcttttttaag	actactgatg	ggtacctgcc	gggcggcc			578

<210> 743
 <211> 592
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(592)
 <223> n = A,T,C or G

<400> 743

ggtcttttaga	aagttccatg	attctgcata	tactgtttga	actgaatcat	gatgtcttta	60
gaaagtatat	gcagaatcag	aatgttccgg	gaaatattga	gttaactgtg	aatatcctga	120
caatgggcta	ttggccgaca	tatgtgccta	tggaagttca	tttaccacca	gagatggtaa	180
aacttcagga	gattttcaag	acattttacc	taggcaaaca	tagtggcagg	aaacttcagt	240
ggcagtcac	cctaggacac	tgtgtgttaa	agcagaattt	aaagagggta	aaaaggaact	300
ccaggtctct	ctttttcaaa	cactgggtgct	gctaattgtt	aatgagggag	aggagttcag	360
tttagaagag	atcaagcagg	caactggaat	agaaggatgg	agagttaagg	agaacactgc	420
agtcattagc	ctgggtggcaa	aagctagagt	tctggcgaaa	aaatnccaan	ggccaaagac	480
ctttgaanat	ggtgacaagt	tcanttngta	atngatgatt	caaaccttaa	actttcagga	540
tnaaggatca	atcaaatnca	aaaaaaaaaa	nnnaaaaaaa	agcttgttcc	ga	592

<210> 744
 <211> 578
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(578)
 <223> n = A,T,C or G

<400> 744

ggtaccaaac	atagccctta	ggcctgggct	aggctctcaa	aggctcttcc	cagaaatgga	60
ggcagcagta	gcttcaaaca	ggcacaaaaa	cagccaggag	gaggcagcat	ccactccatg	120
aaggcctaag	acaatgaaag	gaagccagag	caacagacca	ccttgggatc	cggggagaag	180
ggtaaatggg	caaaaggggt	gtatttcctg	atgctctcag	aacatcagac	cacaccatgt	240
gaattttaagc	aggactatct	taagtgggga	aacaatacta	gaagcatttg	gtgtattttc	300
ctggcactca	cctcctaggt	aagcaggaga	gcgggacact	caggagttgt	gactaaactc	360
acacttaagc	tgccgtgtcca	gaccgtcccc	ttggctgaac	acaacactga	aattgtggca	420
gtgtctgttg	cnccagtggg	cctncactta	ctaattgagta	tgtaaaacag	angagccaca	480
gtgaggcntt	tcacaaaacc	canggcctct	gggggaaaaa	cgggtttcca	ccttctgnct	540
tttggtgctg	gaaagtnctt	gaggganaag	aagtttgn			578

<210> 745
 <211> 581
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(581)

<223> n = A,T,C or G

<400> 745

acagatcagg	caactgtgga	aaatctaaac	gaactgcgcc	aagatctgtc	aaaattccga	60
aatgaaataa	gggatttacc	tggctttcgg	acttctaaat	atgctatgtt	ttatccaaga	120
aattaaccat	tttctaaatc	atggagcgaa	taattttcaa	taacagatcc	aaaagactat	180
attgcataac	ttgcaatgaa	attaatgaga	tatatattga	aataaagaat	tatgtaaaag	240
ccattcttta	aaatatttat	agcataaata	tatgttatgt	aaagtgtgta	tatagaatta	300
gttttttaaa	ccttctgtta	gtggcttttt	gcagaagcaa	aacagattaa	gtagatagat	360
tttgttagca	tgctgcttgg	ttttcttact	tagtgcttta	aaatgttttt	ttttatgttt	420
aagaaggggc	agttataaaa	tggacacatt	gccccaaaag	gttttggaag	antggaagac	480
ccagcaaattg	gtanggcttg	acctccttca	caaggataca	cttggaataa	tagaaagtta	540
tgttttaaata	tctctggtt	aggagttcac	atatagttaa	g		581

<210> 746

<211> 506

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(506)

<223> n = A,T,C or G

<400> 746

ggtacaagct	tttttttttt	tttttttttt	tttttttttt	taggtagtgg	gtgttgagct	60
tgaacgcttt	cttaattggg	ggctgnnttt	aggcctacta	tgggtgttaa	atTTTTtact	120
ctctctacaa	ggnntttttc	tantgtccaa	agagctgttc	ctntttggac	taacagttaa	180
atTTTacaagg	ggattttaaag	ggttctgtgg	gcaaatttaa	agttgaacta	agattctatc	240
ttggacaacc	agctntcacc	aggctcggta	ggtttgcgc	ctctacctat	aaatcttccc	300
actattttgc	tacatanacg	ggtgtgctct	tttancgtgt	cttaggtanc	tcgtctgggt	360
tcgggggtct	tanccttggc	tctccttgca	aagttatttc	tagttaattc	attatgcana	420
aggnataggg	gttaagtcct	tgctatatata	tgcttggtga	taattttcat	ctttnccttg	480
cggnacctgc	ccggccggcc	gttttna				506

<210> 747

<211> 454

<212> DNA

<213> Homo sapiens

<400> 747

ggtacttttg	cttcaatgat	tggcaacttc	tacagggggc	agtcttttga	actggacaac	60
cttacaagta	tatgagtatt	atTTtataggt	agttggtttac	atatgagtcg	ggaccaaaga	120
gaactggatc	cacgtgaagt	cctgtgtgtg	gctggctcct	acctgggcag	tctcatttgc	180
acccatagcc	cccatctatg	gacaggctgg	gacagaggca	gatggggttag	atcacacata	240
acaatagggg	ctatgtcata	tcccaagtga	acttgagccc	tgTTTgggct	caggagatag	300
aagacaaaat	ctgtctccca	cgtctgccat	ggcatcaagg	gggaagagta	gatgggtgctt	360
gagaatgggtg	tgaaatgggt	gccatctcag	gagtagatgg	cccggctcac	ttctgggtatc	420
tgTcacccctg	agcccatgag	ctgcctttta	gggt			454

<210> 748

<211> 569

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(569)

<223> n = A,T,C or G

<400> 748

ggtaccagct	ggcacaggag	cagggggcat	ggcacctctg	ttgtttatgc	ccatagcacc	60
tcccatagcc	atctgaccca	tccgaatctc	ctgctctctc	gcatcaggga	aggttccctt	120
gaatccttcc	tgctgtcgcc	gcatcatttc	ttcttgctgc	cgcgcgatct	cttcttcacg	180
gcgcctgcgc	tcttcctcct	gcctgagctc	cagttgcttt	cgtttttgca	cctcttggtt	240
gtgcagctct	tccatcctcc	gaagttcttc	ttggcgcctc	atcaaatcct	gtctcattag	300
catgacctgg	tgctcatggc	gtgcagcttc	catctccatc	tccagcttct	cacgagcctc	360
cttgatgttg	cgggtccactt	ggtcctgctg	ctgcttctcc	atctcaatga	gtgccttnca	420
gcgcatggca	tattcatact	caaaggaacc	aggctgtgca	aatctgggtg	gctgctctcg	480
ttccttgtga	aatgctgggt	ttataaccag	cttcnttgga	agccctcttc	atcaatctaa	540
cctggtccat	gggctccaca	gtcacaagg				569

<210> 749

<211> 428

<212> DNA

<213> Homo sapiens

<400> 749

acatggatat	tcccaaacca	ttccattaga	aaactgccct	ccctgcacac	acaacaaaaa	60
cagcgctatt	tcctacacct	attggactga	aagtgccttg	aaatgggaatg	gttttagaat	120
atgaagaaga	acacaaacca	agtagctgtg	ggttgaacct	ggacgtgagc	tggtgcagg	180
gccgttgggt	agaaaaccag	catctcataa	acaggtcact	ccactggatg	gtttgtcact	240
ggatggtttg	ttgggggtgg	ggtcacaggc	gcaaaggaca	tgcacacggc	cacgctacgc	300
tactgtaacc	aagaggtgac	ttcagccatg	aataagggtga	agagggttaca	catctaccta	360
cggaatataa	taacatacaa	tgacttataa	agtgactaca	tgcatatgag	caagcaaagt	420
acctcggc						428

<210> 750

<211> 569

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(569)

<223> n = A,T,C or G

<400> 750

acctgccaga	attagcaaga	gctttcttta	agaagacatt	tgtcaaaactc	aacaaattga	60
aggttaacac	cttaagagtt	gtagttactg	accagaaata	tggacagact	tcttagactt	120
ggaggaggtg	tgcttgact	gggccagggg	ccacctacag	atgctcctgc	agtggacaca	180
gcagaacaag	tctatatctc	ttccctggca	ctgttaaaaa	tggttaaaaca	tggccgtgct	240
ggagttccaa	tggaagttat	gggtttgatg	cttggagaat	ttgttgatga	ttataccgtc	300
agagtgattg	atgtgtttgc	tatgccacag	tcaggaacag	gtgtcagtg	ggaggcagtt	360
gatccagtgt	tccaagctaa	aatgttggat	atgttgaagc	agacaggaag	gccggagatg	420
gttgttggtt	gggtatcaca	gtcaccctgg	ctttggttgn	tggctttctg	gtgtggatat	480

caacactcag cagagctttg aagccttgct gganagaact tgtggcaagt ggttggtgat 540
 cccattcaga gtgtaaaagg aaaggttgt 569

<210> 751
 <211> 568
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(568)
 <223> n = A,T,C or G

<400> 751
 acctgaagct caggaggaga tgaaagaagt agccaaacac ccaaagaatc ctgaggttgg 60
 cttgaagcct gtgtggtata gtcccaaagt ttccattgaa ggtgctgatg cagagacttt 120
 ttcggagggt gagatggtta catattataaa ttggggcaac ctcaacatta caaaaatata 180
 caaaaatgca gatggaaaaa tcatatctct tgatgcaaag ttgaatttgg aaaacaaaga 240
 ctacaagaaa accactaagg tcacttggct tgcagagact acacatgctc ttcctattcc 300
 agtaattctgt gtcacttatg agcacttgat cacaaagcca gtgctaggaa aagacgagga 360
 ctttaagcag tatgtcaaca agaacagtna gcatgaagag ctaatgctag gggatccctg 420
 ccttaaggat ttgaaaaaa ggagatatta tacaacttca gagaagagga ttttcatatg 480
 tgatcaacct tatgaacctg taacctatgt agttgcaagg aancccgtgt gtttgatata 540
 cattcctgat ggcacacaaan gaaatgcc 568

<210> 752
 <211> 312
 <212> DNA
 <213> Homo sapiens

<400> 752
 accgccagggt atgtcccttc cagccctggg atggactaga ggagcacagc caagccctga 60
 gtgggagggt gcgggccatt ctccagaatc agggaaactg aaggatgggc ctgagtctct 120
 aaggaaggca gagacctggg ttgagcagca gaataaaaga tcttcttcca agaaatgcaa 180
 acagaccgtt caccaccatc tccagctgct cacagacacc agcaaagcaa tgtgctcctg 240
 atcaagtaga ttttttaaaa atcagagtca attaatttta attgaaaatt tctcttatgt 300
 tccaagtgtgta cc 312

<210> 753
 <211> 334
 <212> DNA
 <213> Homo sapiens

<400> 753
 ggtacaagcg tctgcagcag actgtggcgg gcgaaggagc aggattccag ggcgctgttg 60
 ggcttggtca cgaacgccag cagcaggggt gcaagggcct tggggaaata gtctgtctgc 120
 accatgtggt tcagcgccat cagggggccg tacagttttt tcccacggga caaaaatgc 180
 ctaaggaagg gagaacataa taaaggggtt tctttctctc cctctttctt tcacattaag 240
 acctacactt aaatatatttc catagaaaac catcttctta attgtctttt gaatgaaatt 300
 ctgacttggt gccacaagga ctaatacccg ccga 334

<210> 754
 <211> 533

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(533)
<223> n = A,T,C or G

<400> 754
ggtcgcccgc actgtccggc cacagcctaa cgctcttcgc tgtcgtttgc ggtctcgcgc 60
agggcgcccc cggttctggg gtttggcgtc ggaattaaac aaccaccatg tgcagcaaaa 120
aggcaaaagac caagaccacc aagaagcgcc ctcagcgtgc aacatccaat gtgtttgcca 180
tgtttgacca gtcacagatt caggagttca aagaggcctt caacatgatt gatcagaaca 240
gggatggctt catcgacaag gaagatttgc atgatatgct tgcttctcta gggaagaatc 300
ccactgatgc ataccttgat gccatgatga atgaggcccc agggcccatc aatttcacca 360
tgttcctgac catgtttggg gagaagttaa atggcacaga tcctgaagat gtatcagaaa 420
cgcctttgct tgctttgatg aagaagnaca ggcaccattc aggaagatac ctaagagact 480
gttgccacca tgggggggatc ggtttacana ataagaagtg gatgantgtc ctg 533

<210> 755
<211> 571
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(571)
<223> n = A,T,C or G

<400> 755
ggtaccttat tagaaagcga cggcaaaacta tgtgccagca gccgcggtaa tacataggtc 60
gcaagcgtta tccggaatta ttgggcgtaa agcgtccgta ggttttttgc taagtctgga 120
gttaaattgct gaagctcaac ttcagtcgcg tttggatact ggcaaaatag aattataaag 180
aggtttagcgg aattcctagt gaagcgggtgg aatgcgtaga tattaggaag aacaccaata 240
ggcgaaggca gctaactggg tatatatattga cactaaggga cgaaagtgtg gggagcaaac 300
aggattagat accctggtag tccacgccgt aaacgatgat cattagttgg tggaataatt 360
tcactaacgc agctaacgcg ttaaatgatc cgcctgagta gtatgctcgc angagtgaag 420
tttaaaggaa ttgacgggaa cccgnacaag cgggtggagca tgggttttaa tttngattct 480
acgcgtagaa ccttaccac tcttgacatc ttctgcaagc tatagagata tagtggaggt 540
tacagaatga cagatgggtc atgggtgtcc g 571

<210> 756
<211> 570
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(570)
<223> n = A,T,C or G

<400> 756
gggccactgg aaaggcaaca tgaccaggct gccccgcctc ctggttctgc ccaagttctc 60

cctggagact	gaagtcgacc	tcaggaagcc	cctagagAAC	ctgggaatga	ccgacatgtt	120
cagacagttt	caggctgact	tcacgagtct	ttcagaccaa	gagcctctcc	acgtcgcgca	180
ggcgctgcag	aaagtgaaga	tcgaggtgaa	cgagagtggc	acgggtggcct	cctcatccac	240
agctgtcata	gtctcagccc	gcatggcccc	cgaggagatc	atcatggaca	gacccttcct	300
ctttgtggtc	cggcacaacc	ccacaggaac	agtccttttc	atgggccaag	tgatggaacc	360
ctgaccctgg	ggaaagacgc	cttcatctgg	gacaaaactg	gagatgcac	gggaaagaag	420
aaactccgaa	gaaaagaatt	ttagtgttaa	tgactctttc	tgaaggaaga	gaaacatttg	480
cctttgggta	aaagatggta	aaccagatct	ggcttccaag	acctngcctt	ttcttgagg	540
acctttaggt	caaactccct	agtttcacct				570

<210> 757

<211> 578

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (578)

<223> n = A,T,C or G

<400> 757

acaagctttt	tttttttttt	tttttttttt	tttttttttg	gagtaagaaa	aggtggggat	60
taagaanacg	tttctggagg	cttagggacc	aaggetgggc	tctttcccc	ctcccaaccc	120
ccttgatccc	tttctctgat	caggggaaag	gagctgagtg	aggaggttag	agttggaaag	180
ggaaggattc	cacttgacag	antggcacan	actcctccag	agtanagctt	ggagggagat	240
tgaaagtggg	gataatactg	ctgacacctc	ccttgaagct	nagatgggaa	atggacatac	300
ttagaaattt	agtgacttta	atagcctgga	tttccctntn	caaaactttt	agaatggaaa	360
atcccatccc	cttccttata	tagtgacttc	taccactac	cttctaccat	tttctacttt	420
gggcttatga	tgatggccat	tatctacatg	ngtttttagt	accctgggtt	ggttctaaan	480
ggggatcttg	gaaccnagn	ttnttgggag	atttttaaga	aggaagtttt	aactgaacaa	540
atggaatggg	cnccagaaag	aaatccaggg	tnnccng			578

<210> 758

<211> 567

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (567)

<223> n = A,T,C or G

<400> 758

ggtacgagat	tgaaagggtg	agggttctac	tgcaggaaga	aggcaccg	aagagagaat	60
atgaaaatga	gctggcaaag	gtaagaaacc	actataatga	ggagatgagt	aattttaagga	120
acaagtatga	aacagagatt	aacattacga	agaccaccat	caaggagata	tccatgcaaa	180
aagaggatga	ttccaaaaat	cttagaaacc	agcttgatag	actttcaagg	gaaaatcgag	240
atctgaagga	tgaaattgtc	aggctcaatg	acagcatctt	gcaggccact	gagcagcgaa	300
ggcgagctga	agaaaacgcc	cttcagcaaa	aggcctgtgg	ctctgagata	atgcagaaga	360
agcagcatct	ggagatagaa	ctgaagcagg	tcatgcagna	gcgctctgag	gacaatgcc	420
ggcacaagca	gtccctggag	gaggctgcca	agaccattca	ggacaaaaat	aaggagatcg	480
agagactcaa	agctgagttc	aggaggaggc	caaccccggt	gggaatatga	aaatgactga	540
taaggtagaa	acattatgat	gaggagg				567

<210> 759
 <211> 266
 <212> DNA
 <213> Homo sapiens

<400> 759
 ggtcaccgac ctctctcccc agctgtatTT ccaaaatgtc gctttctaac aagctgacgc 60
 tggacaagct ggacgttaaa ggggaagcggg tcgttatgag agtcgacttc aatgttccta 120
 tgaagaacaa ccagataaca aacaaccaga ggattaaggc tgctgtccca agcatcaaT 180
 tctgcttgga caatggagcc aagtcggtag tccttatgag ccacctaggc cggcctgatg 240
 gtgtgccccat gcctgacaag tacctg 266

<210> 760
 <211> 381
 <212> DNA
 <213> Homo sapiens

<400> 760
 ggtacactag aaagtctttt acaaaataat catcttagat caacagaaga ccaatcttca 60
 atgtcgtcct gcaagatggg ttactttaac atctcctcct gttttctcca atgttctcct 120
 ttagtatggc tggtaatgtg tttggtgatt gccacccctc cgagatgcct tgccataagt 180
 gctctgttgg ccaactgtagt ctgcataatcc ctgtccatat ccatagttcc catagttata 240
 cccagtataa tcataatccgc catagccact atagttttga tcaccaccat aggcactatt 300
 gtaatttcca tatccttgat cataatagtt attaaatcct tggttccagt tttggccctg 360
 acctcgcca cgaccctcg t 381

<210> 761
 <211> 401
 <212> DNA
 <213> Homo sapiens

<400> 761
 actcagctcc aattatctaa tattcttgaa aggatgctga tattgtttgg ttgtgtcccc 60
 ccacaaatct caacttgaat tgtatctccc agaattccca cgtgttgtgg gacagaccca 120
 gggggaggta attgaatcat gggggccagt ctttcccggt ctattctcgt gacagtgaat 180
 aagtctcatg agatctgatc agtttatcag gggtttctgc ttttgcttct tcctcatttt 240
 ttcttgccac aatgtaagaa gtgtcttttg cctcccacca tgattctgag gcctccccag 300
 ccatgtggaa ctttaagtcc aattaaacca ctttttcttc ccagtctcgg gtatgtcttt 360
 atcagcagcg tgaaaacgga ctaatacagt aaattggtac c 401

<210> 762
 <211> 610
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(610)
 <223> n = A,T,C or G

<400> 762
 acgcttggtg atttcatect cataactgtt cttgaagtct tccaccaggt cctgcatggt 60

tcttagctct	gagtcacagc	ggccccgttc	ccccacgatg	ctgtccagct	gcctcctgag	120
gttggtgatg	tacagtaaaa	acacatctaa	catctttgaa	gaccaaattt	cctgctgaac	180
agtattacag	atttcatgag	cactggaggt	ttgtgttgca	gcgcttggtc	ttcttggcag	240
catttggtgt	gtatttgga	acagaaacac	tagtgactcg	agaagcagtt	acagaaattc	300
ttggcattga	gccagatcgg	gagaaaggat	ttcatctgga	tgtagaagat	tatctctcag	360
gagtttcta	tcttgccagt	gaactgtcga	ggctgtctgt	caacagcgtg	actgctggag	420
actactcccg	acccctccac	atctccacct	tcatcaatga	gctggattcc	ggttttcgcc	480
ttctcaacct	gaaaaatgac	tccctgagga	agcgctacga	cggattgaaa	tatgacgtga	540
agaaagtaga	aggaagtgg	ctatgatctc	tncatccggg	ctttaataag	gagacggcag	600
cagcttgtn						610

<210> 763

<211> 578

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(578)

<223> n = A,T,C or G

<400> 763

cgaggtaccc	tgaagaactt	ccctaattgcc	atcgagcaca	ccctgcagtg	ggctcgggat	60
gagtttgaag	gcctcttcaa	gcagccagca	gaaaatgtca	accagtacgg	atgctacttg	120
tccaatgatg	gtaaaagggt	agcttactgg	ttgtcctccg	attcagggtta	gaatgaggag	180
gtctgcggct	aggagtcaat	aaagtgattg	gcttagtggtg	cgaaatatta	tgctttgttg	240
tttgatata	tggaggatgg	ggattattgc	taggatgagg	atggatagta	atagggcaag	300
gacgcctcct	agtttggttag	ggacggatcg	gagaattgtg	taggcgaata	ggaaatatca	360
ttcgggcttg	atgtggggag	gggtgtttaa	ggggttggtg	aggggtataat	tgtctgggtc	420
gcctangagg	tctggtgaga	atagtgttaa	tgtcattaag	gagagaagga	agaagaagta	480
agccnagggc	gtctttgatt	gtgtantaag	ggtggaaggt	gattttatcg	gaatgggaag	540
tgattcctaa	gggggttggt	gatcccgttc	tgcaanan			578

<210> 764

<211> 500

<212> DNA

<213> Homo sapiens

<400> 764

actatataac	agttggcaca	acccacccca	caacagaaga	gaacacattt	ttctcaagca	60
tatgtggaat	agtttccagg	agaaaccatg	tgtaggcca	caaaacaaat	cttaatgaaa	120
tgtaaaagac	tgaaacacaa	agtacagcat	cactcggatt	ctgtgtccaa	tggccttagc	180
aggaagattg	cttcggaatt	tggcacgaac	catgccactg	tttccatggg	cccaggttac	240
ttttccccag	atgactctgg	ttttgtttgg	tttgccgcca	ggagtgactg	tggtgttctt	300
tgctttatat	acataagcgc	atctcttgcc	caaatagaat	tctgtttcat	cttcggggccg	360
taaacacctt	caattttaag	aagagctgtg	tgctcccttt	ggttccggag	accccgctta	420
tagccagcaa	aaatggcctt	ggaccacaag	cctttcagac	atagttcctt	tagaagtcgg	480
acttcggccg	gcgaccacgc					500

<210> 765

<211> 578

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(578)
 <223> n = A,T,C or G

<400> 765

ttccagagca	tattgatgag	agaaggatct	gcaatgctgt	ttctccagac	aaggatgttg	60
atggctttca	tgtaattaat	gtaggacgaa	tgtgtttgga	tcagtattcc	atgttaccgg	120
ctactccatg	gggtgtgtgg	gaaataatca	agcgaactgg	cattccaacc	ctagggaga	180
atgtggttgt	ggctggaagg	tcaaaaaacg	ttggaatgcc	cattgcaatg	ttactgcaca	240
cagatggggc	gcatgaacgt	cccggagggtg	atgccactgt	tacaatatct	catcgatata	300
ctcccaaaga	gcagttgaag	aaacatacaa	ttcttgacga	tattgtaata	tctgctgcag	360
gtattccaaa	tctgatcaca	gcagatatga	tcaaggaagg	agcacagtca	ttgatgtggg	420
gaataaatag	agttcacgat	cctgttaactg	tcaaacccaa	gttggttggg	gatgtgggat	480
tttgaaggag	tcagacaaaa	agctgggtat	atcactccag	ttcctgggan	gtgtttggcc	540
ccatgacagt	ggcaatgcta	atgaagaata	ccattntt			578

<210> 766
 <211> 569
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(569)
 <223> n = A,T,C or G

<400> 766

actgtattta	tattgtttat	attattttag	taatgtaatg	ttttgcttcc	aaagattgcc	60
ttgcctttac	atthtgtgca	aaaatagcag	ctatacatta	atgacataat	aagtatgtct	120
agtattattt	aagtgcctat	tcataatttc	tcatacaaagc	tttttatgaa	tgattataat	180
gcattttcta	taaaatatta	ttgctttcac	tgtataccag	tgattcaaac	tttattgtct	240
tcaacagcaa	tgacatgaaa	tcactctagt	tgcccatcag	tggtggattg	gataaagaat	300
atgtggtact	atgtgactat	cattgatgcc	ccaggacaca	gagactttat	caaaaacatg	360
attacagggg	acatctcaag	ctgactgtgc	tgtcctgatt	gttgctgctg	gtgttggtga	420
atthgaagct	ggtatctcca	agaatgggca	gacccgaaag	catgcccttc	tggcttacac	480
ctgggtgtga	aacaacctaa	tggccggggg	taccaaaatg	ggattccact	ggaccaccta	540
cagccagaag	agatntgaag	gaaattntt				569

<210> 767
 <211> 580
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(580)
 <223> n = A,T,C or G

<400> 767

acgaagctac	ccagggagat	ctgaatgatg	ctaaaaataa	acagaaattt	gttttaaagg	60
tcacaaagcc	tgccaacccc	tgggaattct	acattggggac	ccagttgatg	gaaagactaa	120

agccatctat	gcagcacatg	tttatgaagt	tctattctgc	ccacttattc	cagaatggca	180
gtgtattagt	aggagagctc	tacagctatg	gaacattatt	aaatgccatt	aacctctata	240
aaaataccccc	tgaaaaagt	atgcctcaag	gtcttgctcat	ctcttttgct	atgagaatgc	300
tttacatgat	tgagcaagt	catgactgtg	aaatcattca	tggagacatt	aaaccagaca	360
atttcatact	tggaaacgga	tttttggaa	aggatgatga	agatgattta	tctgctggct	420
tggcactgat	tgacctgggt	canagtatat	atatgaaact	ttttccaaaa	ggaactatat	480
tcacagcaaa	gtgtgaaaca	tctgggnntt	caatggtgtt	gaaaatgctc	ancaacaaac	540
catgggaact	accagaatcg	attacttttg	ggttgctgca			580

<210> 768

<211> 355

<212> DNA

<213> Homo sapiens

<400> 768

ggcaggtacc	ctatggccta	tgttgactat	aagactgtgc	tgcagattga	tgataatgtg	60
acgtcagccg	tagaaggcat	caacagaatg	accagagctc	tcatggactc	gcttgggcct	120
gagtggcgcc	tgaagctgcc	ctcaatcccc	ttggtgcctg	tttcagctca	gaagaggtgg	180
aattccttgc	cttcggagaa	ccacaaagag	atggctaaaa	gcaaatacaa	agaaaccaca	240
gctacaaaga	acagagtgcc	ttctgctggg	gatgtggaga	aagccagagt	tctgaaggaa	300
gaaggcaatg	agcttgtaaa	gaagggaaac	cataagaaag	ctattgagaa	gtacc	355

<210> 769

<211> 611

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (611)

<223> n = A,T,C or G

<400> 769

cgaggtacca	cgatcctgat	gatgaaccag	tggccgatcc	ttatgatcag	tcctttgaaa	60
gcagggacct	ccttatagat	gagtggaaaa	gcctgaccta	tgatgaagtc	atcagctttg	120
tgccaccacc	ccttgaccaa	gaagagatgg	agtcctgagc	acctgggttc	tgctctgttg	180
atcccacttc	actgtgaggg	gaaggccttt	tcacgggaac	tctccaaata	ttattcaagt	240
gcctcttggt	gcagagattt	cctccatggt	ggaaggggggt	gtgccgtgcg	tgtgctgccc	300
gtgttagtgt	gtgtgcatgt	gtgtgtctgt	ctttgtggga	gggtaagaca	atatgaacaa	360
actatgatca	cagtgacttt	acaggaggtt	gtggatgctc	cagggcancc	ttcacccttg	420
ctcttctttc	tgagaagttg	gcttaaggca	gaccaaganc	tgctggccct	tttaaggaat	480
atgttcaatg	ccaaaggtaa	aaaaattntg	aaattggtcc	ccaaatnccc	gggcattgcc	540
tttcgccact	ttnggcttct	tcctggngan	ccccaccttt	gaccggtggg	ggccgtanac	600
nttgacaacn	n					611

<210> 770

<211> 508

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (508)

<223> n = A,T,C or G

<400> 770

ggacaaaacc	agctgaagat	gaaagtgtgg	agacccaggt	gaatgacagc	atcagtgtctg	60
agacagcaga	gcagatggat	gtagatcagc	aggagcacag	tgctgaagag	ggtttctgttt	120
gtgatcccc	accgctacc	aaagctgact	ctgtggacgt	tgaagtgagg	gtgccagaaa	180
accatgcatc	taaagttgaa	ggtgataata	ccaaagaaag	agacttggat	agagccagtg	240
agaaggtgga	acctagagat	gaagatttgg	tggtagctca	gcaaataaat	gccc aaaggc	300
ccgagcccca	gtcagacaat	gattccagtg	ccacgtgcag	cgctgatgag	gatgtggatg	360
gagagccaga	gaggcagaga	atgtttccta	tggaactcaa	gcctttactg	ntaaacccca	420
ctggatctat	actcgnctca	tcttccggtg	aaacccaatt	cncgtgggatc	tggcccaant	480
tnancattna	ncttgggnta	ttncnncc				508

<210> 771

<211> 587

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(587)

<223> n = A,T,C or G

<400> 771

acttgttttg	ggaatatatg	agagaagaaa	ctgctgagca	ggtcagtata	gaacagtcca	60
tttcagctgc	aggacagttc	tctttcccg	gacaagccta	catagcctcc	aagggagcca	120
aactatccct	tccatgcaac	aagacacctt	gcatggatag	tctagccatg	acttgctttt	180
ggacaaaaat	caactgctaa	cgtttttcat	ctctaataat	attaacacca	tggagaaaaa	240
agaaaaaaat	tcaaccctag	aaaacttgac	aacgagaata	agaaaatcca	caaggaaagg	300
tcagtctaaa	actgatttga	cagttgttcc	atcacgcctc	accacatggg	cttgagactg	360
gtgacttcat	ggatgcatcc	cttcgatgcc	ctgccaaatg	tcagcttcaa	gtctgtcagt	420
gacccagtg	tgatgctgcc	tgccctctat	tcaccaactn	ctattcaaga	gatccaaggg	480
ggccttgggc	cggtggtaac	acanggacac	ncaggtgcca	agaagcccca	gnaacccttt	540
tagaaaactt	tgncctggga	tttgggcccc	ggnaaccaac	cngtggn		587

<210> 772

<211> 577

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(577)

<223> n = A,T,C or G

<400> 772

ggtacactgc	aggagagtgc	ctggcaaaaa	gatcaaatgg	ggctggggact	tctcattggc	60
caacctgcct	ttccccagaa	ggagtgattt	ttctatcggc	acaaaagcac	tatatggact	120
ggtaatgggt	acaggttcag	agattaccca	gtgaggcctt	attcctccct	ttccccaaa	180
actgacacct	ttgttagcca	cctccccacc	cacatacatt	tctgccagtg	ttcacaatga	240
cactcagcgg	ccatgtctgg	acatgagtgc	ccagggaata	tgcccaagct	atgccttgtc	300
ctcttgctct	gtttgcattt	cactgggagc	ttgcactatg	cagctccagt	ttcctgcagt	360
gatcagggtc	ctgcaagcag	tggggaaagg	ggccaaggta	ttggaggact	ccctccagct	420

ttggaagcct	catccgcgtg	tgtgtgtgtg	tatgtgtaga	caagctcttn	gctctgtcac	480
ccaagctgga	attgcantgg	tgcaatcatg	gttcacttgc	agtcttgacc	ttttggctca	540
agtgatcctt	ccacctnacc	tcctgagtag	tgggacc			577

<210> 773
 <211> 580
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(580)
 <223> n = A,T,C or G

<400> 773						
ggtaccacct	cctgttccta	caaaacccaaa	acagattaat	ttgccttatt	ttggacaaaac	60
taatcagcca	ccttcagaca	taaagccaga	cggaagttct	cagcagttgt	caacagttgt	120
tccgtccatg	ggaactaaac	caaaaccagc	agggcagcag	ccgagagtgc	tgctatctcc	180
cagcatacct	tcggttggcc	aagaccagac	cctttctcca	ggttctaagc	aagaaagtcc	240
acctgctgct	gccgtccggc	cctttactcc	ccagccttcc	aaagacacct	tacttccacc	300
cttcagaaaa	ccccagaccg	tggcagcaag	ttcaatatat	tccatgtata	cgcaacagca	360
ggcgccagga	aaaaacttca	gcaggctgtg	cagagcgctg	tgaccaagac	tcataccaga	420
gggccacact	tttcaagtgt	atatggtaag	cctgtaattg	ctgntgncca	aaatcaacag	480
cagcaccag	agacatttat	tcaatagcca	gggcaagcct	ggcagtcaga	acctgaacag	540
acctgttctt	tagttcagga	gaaccttgaa	acnaaagaat			580

<210> 774
 <211> 680
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(680)
 <223> n = A,T,C or G

<400> 774						
ggtacctggc	catgggcttc	cctcccacac	ctgccaggac	acagcctgca	ggtcagggggg	60
ctaaactggg	gagttttctc	caaagttggg	aaaggatggg	aagagtaggt	gggaatgggg	120
aagttacaca	gctacagcag	tcaggcctgt	ttagtaagaa	gaatcacatt	taatgagttt	180
ctttcttgca	gtttcagatg	ctcaagtaca	agtaagttat	atgacaacga	taacacacag	240
gaggaaagcc	acggaagcac	actgtttgtga	agttctcatg	ctctacgtga	agtgttatct	300
tttttttcta	agtacagca	agttttattaa	gaaagtaaag	gaataaaaagg	aatggctatt	360
tcattggcag	agcaccaata	aaatcatctg	aaggngagatt	gtgatgagtt	aaangcgtat	420
atgataaacc	tgaagaccaa	cnagaaaanta	gcccacngag	atntagtggg	ttaaagttaac	480
caagggaatt	aacttgaatc	attaaaaaatt	cttaattctgg	gggaaccttt	naanaanggg	540
agcttaccac	ttggggcaat	ttnaaacccna	aagccaggtt	gattgaattt	aagcttacct	600
tttttcaata	atccctttta	aannaanggt	ttnaaccttt	cncttaaang	gcnnnanttt	660
tcnaattgga	ntttaagccg					680

<210> 775
 <211> 658
 <212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(658)

<223> n = A,T,C or G

<400> 775

ggtacctgtg	ccagatgaaa	ggtttgactt	tctttgtcaa	taccacaaac	cagcaagcaa	60
aattcctgcc	tttctaaatg	tggtggatat	tgctggcctt	gtgaaaggag	ctcacaatgg	120
gcagggcctg	gggaatgctt	ttttatctca	tattagtgcc	tgtgatggca	tctttcatct	180
aacacgtgct	tttgaagatg	atgatatcac	gcacgttgaa	ggaagtgtag	atcctattcg	240
agatatagaa	ataatacatg	aagagcttca	gcttaaagat	gaggaaatga	ttgggcccac	300
tatagataaa	ctagaaaagg	tggtgtgtgag	aggaggagat	aaaaaactaa	aacctgaata	360
tgatataatg	tgcaaagtaa	aatcctgggt	tatagatcaa	aaagaaacct	ggtcgcttct	420
atcatgattg	gaatgaccaa	gagattgaag	tggtgaataa	acccttaatt	ttgactcnaa	480
anccatggnc	tacttggtna	acnttctgaa	aaagcttcnt	ttgaaggaaa	ccaanggtga	540
taaaattaag	aaggggtggc	cagtttancc	agggccttgg	catcctttaa	gggggcttgg	600
accttaagtt	ccanaattga	tcttangna	anccaagttt	tggaaccacc	tgncccaa	658

<210> 776

<211> 659

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(659)

<223> n = A,T,C or G

<400> 776

ggtactttac	ggcctgatct	aattgaaagt	gcaccccttg	ttgcaagtgg	caaagctgaa	60
ctcatcaaaa	cccatacaca	tgacacagag	ctcatcagaa	ggttgagaga	ggaggggaaa	120
gtaatagaac	ctctgaaaga	ttttcataaa	gatgaagtga	gaattttggg	cagagaactt	180
ggactttccag	aagagttagt	ttccaggcat	ccattttccag	gtcctggcct	ggcaatcaga	240
gtaatatgtg	ctgaagaacc	ttatatattgt	aaggactttc	ctgaaaccaa	caatattttg	300
aaaatagtag	ctgatttttc	ttgcaagtgt	taaaaagcca	cataccctat	tcagagagtc	360
aaagcctgca	caacagaaga	ggatcaggag	aagctgatgc	caaataccag	tctgcattcc	420
tgaatgcctt	cttgctgcca	attaaaaactt	naggtgtnc	nggtgaactg	gnngtnctac	480
cgntnccngn	ngnggaatnt	caggnaaaga	tgaaccctgc	tgggnaatcn	cttattttcn	540
ggntangnnt	aaaccttnga	tggggccaac	cttaccnggt	ggttattttt	tggnccttcn	600
ntaaagaacc	tcntnaaang	tnccccnttt	ttganacggg	ggnntaaacc	tnccccggg	659

<210> 777

<211> 728

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(728)

<223> n = A,T,C or G

<400> 777

acttcttgca	tgttgtcaca	tgttgctgtg	agaatcaggt	gctgcctata	tggctccact	60
gggagagggc	agatggaagc	cgtcgcctca	tctgtcgtgg	aacgtgtgct	gtgcacctcc	120
tccctttgct	gatcttaatc	tctgtccttt	tactgtaata	aactgtaact	gtgagcctaa	180
cagctttcct	gagtctagt	agtccttcta	gcaaataaaa	ggaggggtgg	cttggagacc	240
tatgaacttg	cacctgcccc	cgtcgttttg	agggtctggc	acagggggagg	gaaggggctgg	300
gcctcttttg	gaaggggggtc	ttcaatccat	ttgggggtcg	gggtcccaac	ttcttggang	360
ggcccaacgt	tccttgccca	gcttccaagn	ctcttcttcc	cttcttaagt	ccccgancct	420
tgcaaccttt	gggccccctnt	ggcttgtgga	atcctgggaa	aaaacttngt	ctttttnttt	480
ancacttgaa	tnngaanaac	tggcccatta	actnaagccc	ttgcatnnct	tngactnctt	540
nnatgggcaa	ccttnaagg	attcccaagg	gnccccctgg	tttangggaaa	taatgggggg	600
aaaatttttt	nggaanttna	anaataancc	ccccccaaaa	ncgggggganc	cttngggccc	660
gnaaccccc	ttaaggggcn	aaattccngn	canatntggg	ggggccggtg	ctaaggggat	720
cccaaccc						728

<210> 778

<211> 603

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(603)

<223> n = A,T,C or G

<400> 778

caggtacact	gctgccactg	ttgtgtcttc	gctctgcttg	ctgttgcttc	acgccaggcc	60
ccgtcctgcc	gtgacaccct	tcctcctacc	cttggaaacc	caaggccaag	ttgggttcaaa	120
ctgttggaga	acagagttgg	cctgcatctg	gaacacactt	gtcctcagct	taccatctcc	180
tcacacccca	gagtggaaa	gtgaacacct	gcagctgagg	cttggaaaac	ttcttgtgt	240
tgccctgaaa	aatctttgag	acctcaggga	ggctctgtct	ctcttaaaa	gtggagaaa	300
atgccattct	ctccctaagg	tctgggtggg	tctccccatc	ttgcataccc	ttctgcaagc	360
catctatctc	tgctcactct	ccaattgacc	cgcctgggaa	caagggatga	aggaggaagt	420
tgggggcttg	ggggaatcct	gccagttggt	gaancctgtg	gcangaagga	tatgtgacnt	480
agagatcctg	atctttntn	ancctgctgt	tggttggctt	gnatatatgg	atgggtgactg	540
tttgnaaagn	ggagtataag	atgccttgct	gatngngta	tgctatgctn	ttangatgga	600
ctg						603

<210> 779

<211> 654

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(654)

<223> n = A,T,C or G

<400> 779

cgaggttttt	tttttttttt	tttccagtta	gtgatgtcgt	atttcaaaat	aggtcgaaac	60
ttcagagaaa	tgaaaatcgg	gatatcagtg	aagttattgc	tctcggtgtt	cctaatactc	120
ggacttccaa	tgaagttcag	tatgacccaa	ggctnttcaa	ccaatccaag	ggataggaca	180
tggtgatttgc	aggtggagaa	gatgaaattt	ataatgttta	tgatcaagcc	tggagaggtg	240

gtaaagatat	ggcccagagt	atztataggg	ccagtaaaaa	tntggacaag	gacatgtatg	300
gtgatgacct	agaagccaga	ataaagacca	acagatttgt	tcccgacaag	gagttttctg	360
gttcaaaccg	taaacngaga	ggccgagaag	gaccagtgc	gtttgaggaa	aatccttttg	420
gtttggacaa	gtttttggaa	aaaacccaac	ngcatggngg	ctntaaaaga	cccttagata	480
ccaccgcnc	aaggacnnag	cctgaagcca	gaaaaggngg	aaggattggc	caggttttcc	540
aangaatga	ctttanccta	acctaangag	ccagnttngg	ggacccttnt	aaagggccgg	600
taaaaccnat	ttggggccca	nccnccttn	ttttttctgg	gaaanggggg	gtta	654

<210> 780
 <211> 570
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(570)
 <223> n = A,T,C or G

<400> 780	
acagtgggca	caaaacctgt
atcagcattt	caaccgactt
gccaacaggt	tgacaatcag
acggaaaagg	agccgatcat
gacgtgagca	gcacctcaga
attcctttat	gatctttctca
gaaccgattg	nagccactgg
catcgctgga	atctaattca
ttttnaggcc	acaaaccttt
aggatncaaa	nccnttggcc
gcagagtccg	cagaagaggc
agctacttta	cacagtccca
cattgaattg	cgcttgccaa
accccngacg	gaaaatatgg
gggtggggca	tttcccttgc
ggagcattga	tgaccccgat
tgatggccaa	tatcaaanct
agtctttaag	aaagatctan
aaanggcctt	ttaacagcaa
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	240
	300
	360
	420
	480
	540
	570

<210> 781
 <211> 664
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(664)
 <223> n = A,T,C or G

<400> 781	
acccaaaagt	ctctggggag
atttgcagtc	gtcactgggg
agctgcatgg	ccaggcgcaa
tgctggggcca	gagcagattc
tcggtcattc	cagagagctc
ttccatagcc	ttctcctcca
atctgggaaa	gacagtcctt
aaaacaagct	ttcatctttc
nggggggctta	ncttcttgac
acctattncn	tggnnaaaaac
agtccttaan	accnggntaa
gncc	
ggccagggaa	gaggctgggt
ccgtttcttg	ctgcttattt
ggccttgatg	acatctcgca
cgctttgttc	acaaaggctc
aagccaagtc	tggtccttgc
gcttcctgat	ctgaagtcac
ctctttcttg	gataaattgg
tggttccant	ttnatctaact
ctggctggna	aattttaagg
cnggggaatna	tgcnagnctt
nttggnntta	cggaaacnggg
	gtcaaaccac
	acagattttt
	60
	120
	180
	240
	300
	360
	420
	480
	540
	600
	660
	664

<210> 782
 <211> 669
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(669)
 <223> n = A,T,C or G

<400> 782

caggtacaag	cttttttttt	tttttttttt	tttttggaat	agaatacaac	tttattttca	60
gtcattttcta	tttccttggg	tatgaacaaa	ggtagcaaag	tgcagttgta	tcagcagtgc	120
caatagaaat	tacagagttt	ttcatatccc	tttacagttt	gccacaggta	tcttaaaata	180
ttgnttacac	tcattctctt	tcagtttacc	attgtttaat	aggcctaccc	tcgatctttt	240
tattcaatat	gttaataaaag	aaacctatac	acatagtatc	accgttatca	ttttaaaaat	300
atthttgacac	tgnatataaa	tataactagc	ttacttttga	atcctacctt	ttttaatggt	360
gnatgaaaat	attattctga	aattagccng	gcntggnggt	gcatgcctan	aggcccagct	420
acttggaag	cttaaggggg	aaggatccct	gaacccaagg	ganggccang	nttcngggan	480
ctnggatgnn	caatggcttc	ancctnggna	atngaattgg	ancccttttt	aaaggaaagg	540
aaanggaaat	ttggattttg	gnaacngann	cctggnccaa	aaaagggcaa	aanccctgct	600
ggaangggcc	tntggacctt	aaatgccccn	nccaaangng	gnnattncca	tttaannggn	660
ccncacggg						669

<210> 783
 <211> 735
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(735)
 <223> n = A,T,C or G

<400> 783

acacagaagc	agtgaaggac	tgcacagaag	ccctcaagct	ggatggaaaag	aacgtgaagg	60
cattctacag	acggggtcaa	gcccacaaaag	cactcaagga	ctataaatcc	agctttgcag	120
acatcagcaa	cctcctacag	attgagccta	ggaatgggtcc	tgcacagaag	ttgcggcagg	180
aagtgaagca	gaacctacac	taaaaaccca	acagggcaac	tggaaaccct	gcctgacctt	240
accagagaa	gccatgggcc	acctgctctg	tgcccgctcc	tgaaccag	catgcccac	300
gtgagctctg	aagccccctc	ctcaatccct	tgatggcctc	caccctgtat	gaagctttgc	360
tttggtcaaa	ttaaacttaa	gtgtaatcaa	accccagacc	atgggtggtt	gcacccagaa	420
agggncccc	tnagaacctt	aacgttgaag	ctgnaacttt	ngcccctaat	tcccnaagcc	480
caagttagct	tgatcccnc	accggaatcc	ttatttagcc	aaagcctttt	ngggntttgg	540
ncctggnc	aaanggggct	ttgaaaaact	ggaaggcttg	gccnttgga	agcttttccc	600
caaaaanccc	aaatttaatt	ggggagntna	ttttggaaac	aaccttgggc	tttttngggc	660
cccggttttg	gaaaggaagg	ggggataaaa	ccttaagggc	cctggttcca	aaannanccc	720
tttttnaacc	ggggg					735

<210> 784
 <211> 660
 <212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(660)

<223> n = A,T,C or G

<400> 784

cgaggtacac	attgtattat	atacaaacia	gcaacaacia	aaagtttcat	catgtaaaca	60
aaagaatata	aattatagac	ataattggaa	gtttcaaaca	gtccttaaata	cattgtgagc	120
ttctctaaaa	ggcacaggct	ttggagtgtg	ggcacagagc	cattagtcag	atgtctgggt	180
ggtctcccat	aatagcaatg	tatactctaa	agtgggcttt	ttgtgaactc	tgtcagggtg	240
aatgagttag	gcctcttaaa	ggaatgaaat	gctttcacat	ttggggcaac	aagtgaaaaa	300
tactgaaagg	agggatacaa	ctagggttag	atattattggt	gacagtgatt	ttagaaatac	360
cactaaaaag	gtggtaaaaag	atttctagat	taaattctga	ctactgnaaa	tnagaaagga	420
tccttttgn	nctctaccaa	tggttngtga	aaaattaaaa	gggagaaagt	gacccaggag	480
aaaccnaatt	gggaagctan	ggaggttcca	gaaaatnccc	agtcttacac	gaaaaaacct	540
tganagggcc	tttttaaggc	caannttggg	aaattacctt	tgtaacttaa	cttgaaaaan	600
acctgccggc	ggccgttnaa	aggncaattn	accnctggng	gccgtcttag	ggncncnctc	660

<210> 785

<211> 254

<212> DNA

<213> Homo sapiens

<400> 785

actgctgctg	gttaaggctca	acctgggggtg	caatgctgct	gtcttcatct	tcgggtcccg	60
agtaatgctc	aataagatca	aaggccctttt	ggtagatctc	ctgggttttca	tgactctgta	120
agaactcaat	tttatccaga	ccataagctt	cttcaatcaa	agcacagtaa	gggttaatgc	180
cagtgccatt	ccttttggct	tcctgtttctc	caagcctcag	gatattttcc	aagccattta	240
gggcaacctg	tacc					254

<210> 786

<211> 688

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(688)

<223> n = A,T,C or G

<400> 786

ggtactggct	gagctggaag	tgccaaaaag	cactcctggc	tgcttctggt	tccatctgat	60
gatgatgtga	cacacactgc	tgaaaaggcc	caagcagggc	aagtgggatg	gctgaaggag	120
ggaaggagg	gggttcagaac	ccactggcct	ggatgggaga	actgggtgga	ggcttcccca	180
agaggggaaga	cagataaaca	aaacaaaaa	aaaactgggt	aaagaggaat	gaatcactca	240
gccctgatgt	ttcaattcta	cactgcattc	ctggccagtc	gcatttggtt	aatgcaggca	300
tggccacagc	tctcctagag	aattatctca	aagaccaga	agggacctgg	angaggccta	360
tttcttaagg	ttttccagtt	ggaccaagg	aangantggg	ttcacttagc	ttctaaaaaa	420
ggntttgaac	cctaagggtta	actgcctccg	gaagctgctt	gcttttggtt	tggcttccca	480
aaaaggnttc	agaatagntt	tggaccctt	anggaaactt	ggatcaagcc	cggnaancca	540
anacttnctt	ggtngnaaaa	tcaagggggg	ctncttgggg	nttanccgga	agtttgggnc	600

aggntgtntt aacaggggtgg ggantgacca nccngnggcc caggggcctt antaacnttg 660
 ggaanccctt gnganggaan ccttnacc 688

<210> 787
 <211> 708
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(708)
 <223> n = A,T,C or G

<400> 787
 acagtaacac aacatcaaaa gcaacacagg ctgtatacag aaacgtgggt cattcttttc 60
 agccctaata gagatgtaat taacagtatc gagcactctg gaaaatcact ctgcagggtt 120
 atatggacta catggagatc atatcctgta gtgtagtgaa agctaagtcc tcaagagcca 180
 tatgtataga tacacaatgt tttttaataa tctttaaaac agagatcaaa gttcatttaa 240
 gtcctgtttg cattaacaaa aataaaaaatg aaataaaaaat gggaaccaa tggatcatct 300
 aaaagggtta aaaattccta aattgnccaa tttatccaac tgggtgggaga ctttaattcag 360
 ggttttggaa agtccaggac tggtttcagc tgaaccaga aggcccccaa ttttgcttac 420
 tggaactggc cctggggtaa gncatggaat taaaatngct tancnccttc ccctnggttt 480
 tgaacttttg gccgggtnga attattggtt aaaggcaggc tttaaaccaa gtttnccaac 540
 ctgggctatt taacttggtt cccattggga aaaattttca aanggaatt ttttattagg 600
 ggccatttca atcnaangga aaattntggg aactttggaa atnccganc cttgntggaa 660
 anaaaaaacc cnggggaaat gggngggggg nccttnggcc cccaacc 708

<210> 788
 <211> 647
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(647)
 <223> n = A,T,C or G

<400> 788
 ggtactctgt ctgctgaggg aatgggggtat tttgactccc atagaaagca ctagcctaag 60
 tcaccaaata actgcttggt cccactgaa gcagtgtagc tctccatagt attttttggtg 120
 gttatggatt acatgtgtgg ccagctcatg ctttttcttg agcaggggct gtccatgacc 180
 tgtgtcata ccattgttcc taagttctct ttggacaggg cctcagctgc tgcctcagcc 240
 tgagtttcag aggggtgtgta ggagtcctgg taatcttgaa gcagtttgac cacctccaaa 300
 tggttgaact gcacagcatc atccagggga atgggtgccc cctgtccttg gcaaaaggat 360
 tcactttgca agccttgatc aggaatttaa caacttcgaa tgtgccctta nctgcagcaa 420
 catgcnaanc tgggcnccaa gcataagctt tctgggtccat atccatggct gacaaggcaa 480
 cttttnaana ncttancatt ggcncntnnn gcngcaaata ccaggtggcc nnagcttggt 540
 cccaattntg gccttacncc cggggntaan tccaaccaan gccttaggtt caaattngga 600
 aattgaanan accccacttt ggcaaaactgg cccctnggtt gncccat 647

<210> 789
 <211> 650
 <212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(650)

<223> n = A,T,C or G

<400> 789

acctgcgcgc	cctcgacgtc	aatgtggcct	tgcgcaaaat	cgccaacttg	ctgaagccag	60
acaaagagat	cgtgcaggac	ggtgaccata	tgatcatccg	cacgctgagc	acttttagga	120
actacatcat	ggacttccag	gttgggaagg	agtttgagga	ggatctgaca	ggcatagatg	180
accgcaagt	catgacaaca	gtgagctggg	acggagacaa	gctccagtgt	gtgcagaagg	240
gtgagaagga	ggggcggtgg	tggacccagt	ggatcgaggg	tgatgagctg	cacctggaga	300
tgagagtgg	aggtgtgggtc	tgcaagcaag	tattcaagaa	ggtgcagtga	agcccaggca	360
gacnaccttg	tcccaaagga	atcagcaagg	atgtgtgggc	caagatcccc	ctntttgccc	420
agcatgagc	aaaaatgtnc	agccacccca	ggctttnta	acanagctgg	ctcttggttt	480
tgggactttt	ccttttctta	aacaaacctg	ccattaagng	anttggtgtt	caaaaaaaaa	540
aattntnnna	naataaaaan	ttttntctt	cgcaccncct	tnnggggaaa	cncnantgng	600
gcggtnntnt	ggancnctnn	tcnctnttgg	gnntangtat	aatntttttt		650

<210> 790

<211> 646

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(646)

<223> n = A,T,C or G

<400> 790

gggtaattcc	ggctgttgca	ccatggcgctc	catgggggacc	ctcgccttcg	atgaatatgg	60
gcgcccctttc	ctcatcatca	aggatcagga	ccgcaagtcc	cgtcttatgg	gacttgaggc	120
cctcaagtct	catataatgg	cagcaaaggc	tgtagcaaat	acaatgagaa	catcacttgg	180
accaaattggg	cttgataaga	tgatgggtgga	taaggatggg	gatgtgactg	taactaatga	240
tggggccacc	atcttaagca	tgatggatgt	tgatcatcag	attgccaaagc	tgatgggtgga	300
actgnccaag	tctcaggatg	atgaaattgg	agatggaacc	acaggagtgg	ttgtcctggc	360
tgggtgccttg	gtagaagaag	cggagcaatt	gctanaccca	ggcattcacc	caatcagaat	420
annccatngc	tattaacaag	ctgnttcccc	ttgctattga	acactggaca	agaacaacga	480
taccnccctg	gtgacttaan	ggcaccgaac	cctgattaaa	ccgnaaacc	cnctnggttc	540
aagnggnaca	gttgcncccc	cnatngttaa	atctggangc	cgcctnttgc	ccanttgga	600
ggaaaantta	tttgctttca	attaaggcaa	tggccgcagn	tgagan		646

<210> 791

<211> 656

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(656)

<223> n = A,T,C or G

<400> 791

accatgatat	ctggcagatg	tataagaagg	cagaggcttc	cttttggacc	gccgaggagg	60
tggacctctc	caaggacatt	cagcactggg	aatccctgaa	acccgaggag	agatatttta	120
tatcccatgt	tctggctttc	tttgacgcaa	gcgatggcat	agtaaataaa	aacttggtgg	180
agcgatttag	ccaagaagtt	cagattacag	aagcccgcgtg	tttctatggc	ttccaaattg	240
ccatggaaaa	catacattct	gaaatgtata	gtcttcttat	tgacacttac	ataaaaagatc	300
ccaaagaaa	ggaattttctc	ctcaatgcc	ttgaaacgat	gccttgtgtc	aagaagaagg	360
cagactgggc	ccttgccgtg	gattggggac	caagaggcta	cctatgggtga	acgtgttgta	420
acctttgctg	cntggaaggc	atttcttttc	cggctctttg	cgcgatattc	tggcttaaga	480
aacgaggctg	agcctggcct	acantttcta	angaacttat	taccganatt	aagggttacn	540
ctgggatttg	cttgccgtga	gttnaacc	tgggacctng	gccgnacccc	ntangggcaa	600
ttccanccac	tggngggccg	tactaaggga	accaacttgg	gcccacacntg	gggnat	656

<210> 792

<211> 640

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (640)

<223> n = A,T,C or G

<400> 792

ggtctgacac	aatcagaaat	tgcagacatc	atcctgggta	tggagatctc	ggcaccgtca	60
cagcagcggc	agcagatcgc	tgagatcgag	aagcagacca	aggaacaatc	gcagctgacg	120
gcaacacaga	ctcgcactgt	caacaagcat	ggcgatgaga	tcatcacctc	caccaccagc	180
aactatgaga	cccagacttt	ctcatccaag	actgagtgg	gggtcagggc	catctctgct	240
gccaacctgc	acctaaggac	caatcacatc	tatgtttcat	ctgacgacat	caaggagact	300
ggctacacct	acatccttcc	caaagaatgt	gcttaagaaa	gttcatctgc	atatctgacc	360
ttcggggccc	aattgcagga	tacctatatg	gggtgagccc	accagatacc	cccaggtgaa	420
agagatcccc	tgcatgttga	tgggtgcccc	atggggcctt	accanaacgn	gcacctgctg	480
gcaantgnct	aactgagacc	tgcccggcgg	ccgttcaang	gcaattcngn	nactggnggc	540
cgtctaagg	accnacttgg	gccaaacttgg	gnaatatggc	nnactgggtcc	tgggggaatgg	600
tnccgtcca	ttcccanttc	anccggaanc	taanggtaac			640

<210> 793

<211> 615

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (615)

<223> n = A,T,C or G

<400> 793

acctacaact	atatctactc	cattttccaa	aacagagagc	tgatcccggg	ctgcaacacc	60
tccaattatc	agaagctccc	ttaatttagg	attatcaatg	tatttcttaa	actgcttgat	120
gttattcaaa	gtttgttcag	ctaactccc	ggaagggttc	acaatgagag	ctttcggagc	180
attggggaga	aactttgttt	gtgtcacctg	tgcattacct	gagtgtgtg	atttgacaat	240
gtaaccatcc	ggtgccttgg	aaagagcaac	aaagccatct	tttgggtgg	acttaaattc	300
ctcttcaccc	gaagttaaat	ttcagttcag	cattcttcaa	aacacaggca	ggaaagaggg	360

cttggttttt	catatgtggt	ggtatttcaa	atgccagacc	aaganctttt	ccatttttgg	420
agaacttgac	atgtccttat	ctatatcnng	tacatccatg	ggatcatgcc	tagngaattnc	480
tttcataata	tcaaatgggtg	gtatgggaatc	ttcctgtccc	caagccaatc	caactggaga	540
ccttgggggc	ccntanggca	atcancctgn	gccgctaggn	ccactggcca	ctgggnacagg	600
cnntgtctgg	aatgn					615

<210> 794
 <211> 709
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(709)
 <223> n = A,T,C or G

<400> 794						
acttctgaat	aagttcagag	ccaaccactc	tcaagaaagt	ggctgaggtt	tggtttgcta	60
ctgctttggc	taacaagggt	ttacctgtgc	caggatggacc	atagagaatg	accccccttag	120
gaggctttat	acccatctct	tcataatatt	caggatgggc	gagaggaagc	tccacagatt	180
ccttaatttc	ctgaatttgg	ttgtccaacc	ccccaatatc	tgcataggtc	tcctgggggg	240
ccttttctac	cttcatcact	gtgaccaggg	gatccgtgtc	atccatcagc	acccctatca	300
cggnatgcac	cttgtgggtg	agcaggaccg	agcagccagg	ttccagcaga	tccttgctac	360
aaatgaaaga	atgctgacgt	antgttctga	gcccacagat	gtagacacga	atggcatgat	420
ggcatcaatg	atctcttttc	aaggttccta	ctgacatcgg	ggccccctc	agaatcatcc	480
acttttggat	ctttccttcn	tcttgntttt	ccttctaag	gggttcaatt	tggtncccgg	540
atttcttaag	ngaatctttc	cttnctntga	aaaaaaaaag	gccnttnaaa	tnctntttta	600
acctttangn	aanttttaaa	cccgggcctt	gaattnnnaa	gggggcnccc	cngggggcaa	660
ttttncttgg	cnnnaatttg	gggccccctt	gggnttnntt	ttttttttt		709

<210> 795
 <211> 693
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(693)
 <223> n = A,T,C or G

<400> 795						
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gttcagctgg	acagtgtctat	cagcatggaa	ttgtggcagg	aagcattcaa	agctgtggaa	120
gatattcacg	ggctattctc	cttgtctaaa	aaaccaccta	aacctcagtt	gatggcaaat	180
tactataaca	aagtctcaac	tgtgttttgg	aaatctggaa	atgctctttt	tcatgcatct	240
acactccatc	gtctttacca	tctctctaga	gaaatgagaa	agaatctcac	acaagacgag	300
atgcaaagaa	tgtctactag	agtcctttta	gccactcttt	ccatccctat	tactcctgag	360
ccgtacatgt	gcataggaac	tgggatatac	acaggcacag	ggataggcac	tggaacatat	420
tctgnctnca	agtatcatct	gctgaccaag	aattggnetg	catgtgaagg	ttacagtaag	480
tacttttggc	attggtaaan	ggttgccaaa	aaactgnntt	ggnccttnan	cnctttggta	540
aggggttgga	aaaaggggtg	gggcttaaac	ctggcanttt	nggttcnana	agtntggaaa	600
ncctggganc	ttaaggggaag	gttttttang	gccnttttga	aatggcaatg	tgggcncaat	660
ttggtggccc	gtnaaaaccc	cntanncaag	gtn			693

<210> 796
 <211> 452
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(452)
 <223> n = A,T,C or G

<400> 796
 ggtacattca cgtctcccgg ccgcttcacc tgaaagccat cggctctcctg ggtagtggcg 60
 gtccgtgtgcc attctaccag atggttgtct ggcccataca ggtctttgtc cagttcaatc 120
 accaaggatt taaaaaagga agagaacttc ctcttttggt tagtggcatc atatttggac 180
 aaggctgaat cctccaggag ccgtcccttct acccgaagct cccaggaagc caccgtccct 240
 tccccatcct cggcatctga cttagccgga ttgaaagtgt tagaaatgaa aattcgcagc 300
 ttccgttttt gcttgatggg acgtttcaag gcctcttgga tatctagccg ttcctcatga 360
 tagtctgggc cagttccttt caaaagccaa gagatccata taggcctggg attctggtac 420
 ctgccnggcc ggcgctcnaa nggccaattc aa 452

<210> 797
 <211> 333
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(333)
 <223> n = A,T,C or G

<400> 797
 ggtacaagct tttttttttt tttttttttt ttttttatta ngcgcaagtg gtcaaaaagtt 60
 gtcaaaaattg tcctcattcc tcgattgtct cttttttacc agtctcttgc ccttcaaaca 120
 gaggatacct ggcctccaca tcagcccatg tgatgttgcc attggctagg tcttggacta 180
 tgctgggcag ctccagagatc tctgctctta tctgccgcag tgagtcacgg tccctcagag 240
 ttgcagtgtg ggggggtcttg ttcactgtgt caaagtcaat ggtgacacca aaagccacgc 300
 caatctcatc aagtcctggc atanccgctt ccg 333

<210> 798
 <211> 632
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(632)
 <223> n = A,T,C or G

<400> 798
 ggtgcttttt tttttttttt tttttttttt tttttggaca cagatcactt tattggcatg 60
 gctttgtttt aagaaaagga aaagtgcaca agccaagaga cagactctgc taacagatgc 120
 ctgggggtgg ctggacattt ttgcctcatg ctgtgcaaag agggggatcc tggcccacac 180

atcctgctga	ttccttgga	caagggtgtc	tgccctgggcc	tcantgcacc	ttcttgaata	240
cttgcttgca	gaccacacct	tccactctca	tctccagggtg	cagntcatca	ccctcgatcc	300
actgggtcca	gccacgcccc	tccctctcac	ccttctgcac	acactggagc	ttgnctccgc	360
cnagctcact	gntgcatgca	cttgccggcat	ctatgcctgn	caaatcctcn	ttaaactctt	420
tnccaacctg	gaagtncatg	gatgtagtcc	taaaagtgct	ancgngccga	tgatcatatg	480
gncaccggnc	gnaccnact	tttggctggc	ttancaagtt	gcaattgcnn	agggcattga	540
cttaggcncc	agtcttccc	gcgccgtnaa	ggcaatcncc	attggcggnn	tctagggncc	600
nntggncagt	tggtnatngg	caantntcng	ga			632

<210> 799

<211> 462

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(462)

<223> n = A,T,C or G

<400> 799

ggtactgcgt	ctgtttttgt	tacccacaaa	ggaccagcgc	cagatgttct	ttgtgatcag	60
cctggatccc	ccaatcaagc	aaggccaaac	tcgctaccac	ttcctgatcc	tcctcttctc	120
caaggacgag	gacatttcgt	tgactctgaa	catgaacgag	gaagaagtgg	agaagcgctt	180
tgagggtcgg	ctcaccaaga	acatgtcagg	atccctctat	gagatgggtca	gccgggtcat	240
gaaagcactg	gtaaaccgca	agatcacagt	gccaggcaac	ttccaagggc	actcaggggc	300
ccagtgcatt	acctgttcct	acaaggcaaa	gctcaggact	gctctaccgc	ctggagcggg	360
gcttcatcta	cgtccacaaa	gccacctgtg	cacatncgct	tcgatgagac	tcctttgcaa	420
cntttgtcgt	ggtacctgcc	cggccggncg	ttcgaaangg	cc		462

<210> 800

<211> 702

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(702)

<223> n = A,T,C or G

<400> 800

gaggtgtcct	cccctccaag	cagaccacct	gtccccttct	atcccagctc	agagcagctg	60
acccaactca	gaatctcttt	cctacaggat	gaagtgcctt	ttgaatgtta	ttttaagccg	120
agagttaatt	tttctacaca	acatattttc	agacatcttt	tagtctttta	ttgtcttaga	180
tactataaga	agatgaacat	gacaattttc	tagaacctgg	tagcgtgtgt	gtgtgtggcg	240
gggggtgctg	agggagggga	gtgagtcaca	ggagcctgtc	ccccaacagg	tgtgattgct	300
ctgacaacct	gtggcatgct	gcagggtcag	gctcctgata	ggaggatttc	atgactatgt	360
cattgnctcc	actcattttt	gacccagttt	ggaatgtatc	tgcaattggg	gtgggtcaac	420
actttaggaa	acaatagaat	tattttatat	aataattctg	atgggtgacca	agtttngnct	480
tggagggcca	caattttctt	cctttgaaaa	agtggacant	ncctggncac	ttctggnttt	540
ttaaaactta	ctnggccatt	ccattttggg	ggtttttttg	ggngggtaaa	ttgggttttg	600
gggttaaaaa	cccgtttncc	agggaaaaanc	ccctaaaaaa	nccctttggg	gaatttttaa	660
anggaaaaat	tctgggntaa	attngggntt	ttttaaaaac	cc		702

<210> 801
 <211> 719
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(719)
 <223> n = A,T,C or G

<400> 801
 aggtactgcc cagagaattt tgtagacatc aagaaaactt tggaacgaga gactcgccag 60
 tgccaggctc tggatgatctg gactgactgt gatagagaag gcgaaaacat cgggtttgag 120
 attatccacg tgtgtaaggc tgtaaagccc aatctgcagg tgttgcgagc ccgattctct 180
 gagatcacac cccatgccgt caggacagct tgtgaaaacc tgaccgagcc tgatcagagg 240
 gtgagcgatg ctgtggatgt gaggcaggag ctggacctga ggattggagc tgcctttact 300
 aggttccaga ccctgcggct tcagaggatt tttcctgagg tgctggcaga gcagctcatc 360
 agttacggca gctgccagtt cccacactg ggctttgtgg tggaaccggt tcaaagccat 420
 tcaggctttt gnacccttgg ggccgnaaac accttaaggg ccgaatttcc agcacaactg 480
 ggcgggccgt tactaagnng gantnccgaa cttngggnan cccaagcttt gggcgtnaat 540
 catnngggnc ataaacttgg gttnccttgg ngngnaaaa ttgggntaat cccggtttna 600
 caaatttccc cccccaactt tttccnaaac cccgggaaag ccttttaaaa ggggtnaaaa 660
 acccctnngg gngggcccct aaatggagtn ggggncttta accttcnccc ttttanant 719

<210> 802
 <211> 646
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(646)
 <223> n = A,T,C or G

<400> 802
 actcatcgcc attgacctgg cctataactt gcacagtgcc tatggaaact gggtcccagg 60
 cagcaagcct ctcatacaac aggccatggc caagatcatg aaggcaaacc ctgccctgta 120
 tgtgttacgt gaacggatcc gcaaggggct acagctctat tcatctgaac ccactgagcc 180
 ttatttgtct tctcagaact atggtgagct cttctccaac cagattatct ggtttgtgga 240
 tgacaccaac gtctacagag tgactattca caagaccttt gaagggaact tgacaaccaa 300
 gcccatcaac ggagccatct tcatcttcaa cccacgcaca gggcagctgt tcctcaagat 360
 aatccacacg tccgtgtggg ccgggacaga agcgtttggg gcagttggct aagtggaaga 420
 cagctganga ggtggccggc ctggatccga cttctggctt gtggaaggaa cagcccaagc 480
 cagaatcatt ggcanccagg aanggcattgc tngacccact ngaaggngcc cttactngga 540
 cttccccaaa attgggcatt aaagggntcn gggcttcnaa ttcccttttc aggccngggt 600
 tnangngggg aaaaattcgg ggaatttnat ccttaaagcc nttgnc 646

<210> 803
 <211> 544
 <212> DNA
 <213> Homo sapiens
 <220>

<221> misc_feature
 <222> (1)...(544)
 <223> n = A,T,C or G

<400> 803
 acacgtcgtc ctcccggctc aggccctcaa agaaggggat gaggtccagc agctccgtgt 60
 ccgtcatgtc atcgaaccag gactgcacag gcactgcatt ctccaggatgg aagatgtatg 120
 aggcagggga attgtcaaca atgatcactt tgctcagctc ccgccccagg cgactcaggt 180
 ccttcacgta gttcccacga tgaaaaacac atgattctct gaagagccgg gcccggaaca 240
 caccocagcg gtctaggagg tcagccacag ggtctgcata cttggccaag ctggcagtaa 300
 agagcacaca ttcaaaaagc tgcccatcct ctggaggaaac tcgtccacat gtggccgctt 360
 cagcacatac acctgatgta tagttccatc gattcaaccg gaacaataaa atnagcanta 420
 ctaaataaggc ttaaaacgaa ctgtgcacca atgggttcatt ctaaataaat ggaccaccca 480
 ttctttttcca tagtcnagca ccggtacctn tggaanaang tnccttgggc gngnaccccc 540
 ttan 544

<210> 804
 <211> 642
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(642)
 <223> n = A,T,C or G

<400> 804
 cgaggtagat ccttgtggga gagaacctca tcaattttcca catttcttcc aagttctctt 60
 gccctgagac ggattctcat cgctttggaa ggcacctgaa agaagcaatg actgacatca 120
 tcactttgtt tgggtctcagt tctaattcca aaaagtaatt ccactggagc tgctgggaag 180
 gaaaacgagc tcttctgatg caaaccaaat gaaaaaatagg cattaatcct gaccttagct 240
 cgggatgaaa cactgctctt aaaaaaactc agttttcctt ccagaaaatg tgggtgtttt 300
 tttttcctag aacagtatct ctcccctgtg aagcataacc ccactacttc cagacttgcc 360
 ctcccctggg ggacatctga taaagtctcc cctgatgtct ccgcatcggc ttggattatt 420
 aagggatgca aatcttgggt agttaatnaa ngaattanta ngggtgtggn tttaccncc 480
 agtgggaatgg aaatngngnt gctttntant nggcaanncg aaggcctaag ctttanggcc 540
 ttttaacctt ntccangcng ggtaaacttt tggtttgntn aaaanaaaan tnnttnttaa 600
 agttggggnc ccanttgagc taaccatttg ganngcctac cc 642

<210> 805
 <211> 261
 <212> DNA
 <213> Homo sapiens

<400> 805
 cgaggtagta cagagcccct ggacgggtgtg atgttggaag aggatgtttt ttctcaacct 60
 gaaattagta atgaggctgt taatttgaca aatgtttttac cagctgataa ttcatcaaca 120
 ggatgctcta aatttgtcgt tatagaacct ataagtgaat tgcaggaatt tgaaaacatc 180
 aagtcattca catcattaac tcttacagtt cgaagttcac ctgctccttc agaaaatact 240
 catattttct ctttgaaatg t 261

<210> 806
 <211> 311

<212> DNA
<213> Homo sapiens

<400> 806
gcgagagagcg gctgatcgca gtccggaggt gaggcggaac tctgagcagg tgggtccatta 60
tggctgacat gcaaaatctg gtagaaagat tggagagggc agtgggcccgc ctggaggcag 120
tatctcatatc ctctgacatg caccgtgggt atgcagacag tccttcaaaa gcaggagcag 180
ctccatatgt gcaggcattt gactcgctgc ttgctgggtcc tgtggcagag tactccagtt 240
ctcagccaga accccgcaca ggtctttcct tatgggatac cagcccctca tacattgata 300
aattgggtac c 311

<210> 807
<211> 591
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(591)
<223> n = A,T,C or G

<400> 807
ggtacctgtt ctttgccagt taagatacat atcttattat ctttgttttt ttcaagtcta 60
tgctcctgtt tgaagctttt cctgtaattt aggttgtctg tgaaatacct ataacatata 120
attcctatag agtatgccac attttttttc taactcattt caaatgaaat tctctcagat 180
tctagttttt gagcttgtcc actagatctg aaaataaagc atcctttcct gaggccactt 240
gaactaattg tgaatttggt acttaattta ctggcatctt gggaaacaag ttttgtctgt 300
gcaggaaggc tgttttgaga gtgagccgtt gaagtctact ctggtttgtg gatgacattg 360
cattaggggt tatttctctgn attaccagtg ccccttctgt gcaatatact ttatgacttg 420
gaatgcaaca ccacttttaa aagcctgggt tcaagttttg aaagcattgg ttctgtgntg 480
ccataatctg aagnttctgt gaaggattat tnaagcttta aaccttncaa ggtaaaggcc 540
aaattaggcc tgggaattacc tggaccttgg ncaaaaattn aanattncn n 591

<210> 808
<211> 641
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(641)
<223> n = A,T,C or G

<400> 808
actaaatgga ggcacgtggg agaagggagg ggccattgag gaacaaaaat gtgttttaag 60
gaagagatgg gaaagcagag accaggtaga ggagctaggt aagctgatag gtgttgtcat 120
tggtagaaaa gaagaagata aatggatgta aggattgagg ccttggaag tagcataggc 180
aggaaaagag gaattagaag aatacgtgaa gaagtgggaa tcatgggctg ggaagggaaa 240
ttttggaaaa ggagcacatt aaggcagaaa actcttttag agcagtgggt ttaaacttca 300
gcaatgggtg tccttttata caagtatccc ttacttttga atcccaggaa gtaaaaggca 360
cattcttgtt gaagtggggg aggagcactt ggaaccctgc ttgcttaact ttttttcttt 420
tgggcccttg aagtgtagta tatttttaaaa tccactgggtc tanaagggag tagttaagtt 480
naaggggaan aaaggatgat tgggaaaaga tcngacccga agggactttt tggtnaccga 540

aaagttttng gtncccttgg aaaggggaagg ggcccccttt nggaattang ggaaatggaa 600
acttggaact gggnaaantt cctntnagct taaccttgan g 641

<210> 809
<211> 388
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(388)
<223> n = A,T,C or G

<400> 809
acaagagggt gggctgggccc aggatgcccc agggctggcc acagccaccc ccctcaaagg 60
tggtgatgag aaaagagaca ccttcttcct tgagaacatc ttccagccac aaattagggg 120
atctgttgcc tggcaataaa ggaacgaatt tataaaagag ttcaatggat ttgtgtcgac 180
attctgtctg gggcctccca caatgagcta aaagccactt gaccagatcc aataaacaca 240
atgatgcgga aggtggaaat cctcgcggca aacgtcgttt ctttgcttta tttaaagaaa 300
catgcttctt ttcaatgatg cggcataggt gatcaatggc atcacaacac tgttgaattg 360
tacctcggnc gngaccacgc taaaggcc 388

<210> 810
<211> 175
<212> DNA
<213> Homo sapiens

<400> 810
ggtacatcct cggccgggag tccccactgt ctctctacaa tgaggagctg gtgagcatga 60
acgtgcaggg tgattatgag ccaactgatg ccaccgggtt catcaacatc aattccctca 120
ggctgaagga atatcatcgt ctccagagca aggtcactgc caaatagacc cgtgt 175

<210> 811
<211> 329
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(329)
<223> n = A,T,C or G

<400> 811
ctgcgcggtt gttctctgga gcagcggttct tttatctccg tccgccttct ctccctaccta 60
agtgcgtgcc gccacccgat ggaagattcg atggacatgg acatgagccc cctgaggccc 120
cagaactatc ttttcggttg tgaactaaag gccgacaaag attatcactt taagggtggat 180
aatgatgaaa atgagcacca gttatcttta agaacggtca gtttaggggc tggtgcaaag 240
gatgagttgc acattgttga agcagangca atgaattacg aaggcagtc aattaaagta 300
acactggcaa ctttgaaaat gtctgtacc 329

<210> 812
<211> 668
<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(668)

<223> n = A,T,C or G

<400> 812

acgggatgcta	cttggtccaat	gatggtaaaa	gggtagctta	ctggttggtcc	tccgattcag	60
gttagaatga	ggaggtctgc	ggctaggagt	caataaagtg	attggcttag	tgggcgaaat	120
attatgcttt	gttgttttga	tatatggagg	atggggatta	ttgctaggat	gaggatggat	180
agtaataggg	caaggacgcc	tcctagtttg	ttagggacgg	atcggagaat	tgtgtangcg	240
aataggaaat	atcattcggg	cttgatgtgg	ggaggggtgt	ttaaggggtt	ggctagggta	300
taattgtctg	ggtcgcctag	gagggctggg	gagaatagtg	ttaatgtcat	taaggagaga	360
aggaagagaa	gtnaccgaag	ggcctcttta	nttgtgtaat	aanggttgga	aggtgatttt	420
tatccgnaat	tggggaagtga	tccctaaggg	ggttggttga	ncctcctttc	ctgccanaaa	480
tagganggtg	ganttctgct	tagggcttcc	aataattgan	gggcctnaaa	tnaanttgna	540
aanggtaaat	aaaacctttt	naagggttgg	gaccttggtt	cttgngtnna	ncctccttan	600
nattccattg	gaacttaggc	ttggncccat	gtnttgggan	tggcggataa	ttaanttttg	660
aaattncc						668

<210> 813

<211> 312

<212> DNA

<213> Homo sapiens

<400> 813

ggtacaggca	gggtagatct	aactatttga	aggaatccct	aacacttttc	cagggtagaa	60
ttctggctag	tccaaaaagg	gtccttcttt	taagggtttt	gagaaactag	acactgcaac	120
ttattagtat	cggcgacgtt	tgtttggggc	aaattcagct	ccaggagctg	cacgggttgaa	180
tgcaggagga	gttccaccaa	ttgccccaat	tccttccatt	gtagcagcct	gaccaaagcg	240
ttcagttgtt	ggtgggggtca	atcccaaagt	tccatccggc	atcatagtgg	cagggtcctgg	300
aggagctggg	gt					312

<210> 814

<211> 551

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(551)

<223> n = A,T,C or G

<400> 814

cagggtactct	gaagtataca	caacaggtct	aaacatctcc	cttgctcgtaa	gtagtttgtgt	60
aaaattcaag	ataaagattt	agtcctcatct	tttaatgtca	gtttttttcc	ccatgttaaa	120
gggaatgagg	aggagtcctc	ttttattccc	ccacaagaaa	aaggagagcca	cattaatatg	180
tgtatatattc	cataactcta	atgtaagtgc	ggatctccaa	agcctagggga	tttttccgta	240
aaagagagtg	ggccgttctg	gttacccttt	tattagaagg	gtattccacc	acagagagcc	300
ggagggttttc	cagatgtgtg	taagagagca	ggtgcgcaag	gcaagcaaata	gagcgcaaac	360
agtattatgg	aaaacatttg	agaagttage	tccatgagga	ctgtgggctt	cacaagagga	420
ctcgactggg	tagccctggc	tgacanagga	cctgaaaagc	ngagtattgc	ttcaaacttg	480

gaaccnttca taggagccta acactgttgg aagaagtacc ttggcnggac caccttangg 540
gcaattcnag c 551

<210> 815
<211> 619
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(619)
<223> n = A,T,C or G

<400> 815
ggtactgata acttcttgct tcagttcatc tacaatgac tttccctcta aatcccagat 60
cttgatgctg gggcctgtgg cagcacacag ccagtagcgg ttagggtga agcacagggc 120
gttgatgatg tcccaccat ctacgtgta aaggtgttg ccttcgtga gatcccataa 180
catggcctgg ccatccttgc ctccagaagc acagagggat ccatctggag agacagtcac 240
cgtgttcaga tagcctgtgt ggccaatgtg gttggtcttc agcttgagc tagccagggt 300
ccataccttg accagcttgt cccaaccaca ggagacgatg atagggttgc tgctgttggg 360
cgagaagcgg acacaagaca cccactctga gtggctctca tcctggacag tgtattttgc 420
acacaccag ggtattccat agcttgggtg gtttacctgn ccggcggccg tcnaaanggc 480
gaattcacca tggcggccgt actagngatn caacttggnc caacttggcg gaatctggca 540
tactggttcc tngggaaatt gtttcngtcc aattccncna aattnaaccg gaagnttaaa 600
ggtaaaactt gggggccta 619

<210> 816
<211> 658
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(658)
<223> n = A,T,C or G

<400> 816
actccagcag ccaggcatcc cagatctcct gtccctggagg gtgctggggc ccctggctcc 60
ccagagtgtg caggcagacc cccagagccc tagctcatcc atttatccat tcctcataat 120
ccagtgtcca aagagtaccc ccagcagggc aggggaaggtc cctcccgggg tttacatgac 180
tgattccttc tcagaggcga ccgtggcatc ccctgcgggc ccccgatagt gtttgaggag 240
ggggtttcct tcctcaggct ctgtgcttct cgactccgta caagcttttt tttttttttt 300
tttttttttt tggaaggaga acaattttat tctaaaaata gaacttggta acaatgaaat 360
accaaaaagct ggtcattata ataaaaagaa aagaanagtt taactttttt tttgtgaaaa 420
ttcnaaaatt atcactataa tatactgcca actntggtna attnganttt gaattatttc 480
ctttcatngg attatttcaa gggaaatttt taaaattngn ttttggccta aaaccttngg 540
ccgggnaccn cncttanggg gcnaaattcc aatccaantg ggggggnccg taacttaagg 600
gggancccaa ccttgggnnc caancnttgg ggngtaaatc atggggcana ncntgttt 658

<210> 817
<211> 141
<212> DNA
<213> Homo sapiens

<400> 817
 actttcttct gccataactt cttcctcagt tcctacaggt gtgacacttt tcaacttctt 60
 tggaagaggc atttccactg tatcatcaga gacttgggtct gatgcttcta tgggtgctatc 120
 ctcttcctct tcacgtgtac c 141

<210> 818
 <211> 280
 <212> DNA
 <213> Homo sapiens

<400> 818
 ggtactttaag aactcaagta tagaaataaa ctgtgggctg aagtaacatt gtaacctgct 60
 cccaacatga ctgcataggt gtctaagggt aagtgtgaag attactgtga ggtctcaagt 120
 tacttgacta atcaatccca tttgaatttc aatccaagca gcatatttta cacacacctg 180
 aaggaaatat cttcagtggtg ttcattgtgtg tgtctatgtg catgtatgtg taggggatag 240
 gtgtaattag ggaagggctg accgaacaac attgataagt 280

<210> 819
 <211> 635
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(635)
 <223> n = A,T,C or G

<400> 819
 ggtacttgag tcctttctcat ggggtggggtg attgcctctt ctcattcagga gccaggagag 60
 aggggggacag ataggagggtg gcccatagga gcagtcccg cgcacaaatgg taggcatagg 120
 ccatggcact ggactgcctc taaggactgc taaaaagaat atttttttgt ggtgtcagaa 180
 ctggaaaaag cactttccct tcgggcattt ctggaaatga ttattaatcc acaaagaaga 240
 actctgtaag ctttttcttg aattgtancc agtgagaaaa gcagatagac tgaagaatat 300
 gaaggatagc tgagctgtnc ctncatagtg gggcatgcct aggcataatgg ctggcttgga 360
 gactactgat gcttttccct gagtttgtat tggcactgan gtatggccgg ctggggccac 420
 tgacttccca ntaatggaat ctgntnaaaa cttggggatt ccttttagctt nntactggaa 480
 gaaaantttt gtancnaaaa gatttataac cnnttagnaa taagtttncc agcancccng 540
 gatttttttt nngcttgggg gttnttggcg ncctttannn aaggacnggg cnttgnntt 600
 cntctttacn aggccttgnt ntgancntgg agaan 635

<210> 820
 <211> 276
 <212> DNA
 <213> Homo sapiens

<400> 820
 acatcttctt cctgagttac gcttacaaaa ttttcaaaca tagcaaccat tgatggggcg 60
 gcaatcacat gacaattcac aagatcagat aaaaaacgga ccaaatacac ggcttcatta 120
 taattgtttg ctttcaatga ttctttaagt tgacgaatca tggcttctac aaattctcca 180
 ccaaaattgt aattcctggc attcagtagt ccaactaatg ttgtataaat tgtcagcttc 240
 tcaggtaata ggcgtgcact ggattcataa atcacc 276

<210> 821
 <211> 728
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(728)
 <223> n = A,T,C or G

<400> 821

acaatgatgc	cagaagcttt	ccttcaagaa	gctcagataa	tgaaaaaatt	aagacatgat	60
aaacttggtc	cactatatgc	tggtgtttct	gaagaaccaa	tttacattgt	cactgaattt	120
atgtcaaaag	gaagcttatt	agatttcctt	aaggaaggag	atggaaagta	tttgaagctt	180
ccacagctgg	ttgatattgc	tgctcagatt	gctgatggta	tggcatatat	tgaaagaatg	240
aactatatcc	accgagatct	tcgggctgct	aatattcttg	taggagaaaa	tcttgtgtgc	300
aaaatagcag	actttggttt	agcaaggnta	attgaagaca	atgaatacac	agcaagacaa	360
ggtgcaaaat	ttccaatcaa	atggacaagc	tcctgaagct	gcactgnatg	ggccggntta	420
caataaagtc	tgaaggcctg	gncatttttg	aattcttgca	aaccggaact	tagttaccca	480
aanggggnccc	aatngccntt	attcccaggt	antnggggga	aaccgggnaa	aagtaaccn	540
ttggggcccg	ggaaaccacc	nccttaangg	ggccnaaatt	ttccaggcnn	cnacttgggg	600
cgggggcccg	ttancttaag	gggggaatcc	ccnaacnttt	ggggacccca	anacntttgg	660
gcgggaaaac	cnatnggggn	ccaaaanacc	gnggntnccc	ccgnggnggg	naaaaaattg	720
gnnttnnc						728

<210> 822
 <211> 632
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(632)
 <223> n = A,T,C or G

<400> 822

actttacggc	ctgatctaata	tgaaagtgca	tcccttggtg	caagtggcaa	agctgaactc	60
atcaaaaacc	atcacaaatga	cacagagctc	atcagaaagt	tgagagagga	gggaaaagta	120
atagaacctc	tgaaagattt	tcataaagat	gaagtggaga	ttttgggcag	agaacttgga	180
cttccagaag	agttagtttc	caggcatcca	tttccaggtc	ctggcctggc	aatcagagta	240
atatgtgctg	agaaccttta	tatttgtaag	gactttcctg	aaaccaacaa	tattttgaaa	300
atagtagctg	atttttctgc	aagtgttaaa	aagccacata	ccctattaca	gagagtcaaa	360
gcctgcacaa	cagaagagga	tcaggagaag	ctgatgcaaa	ttaccagtc	tgcatcact	420
gaatgccttc	ttgctggcca	tttaaactgt	aggtgtgcan	ggtgactggc	cgttcctcag	480
ntncttggtg	ggaatcttcc	gtnaagatga	acctgacttg	ggancactta	ttttttnggc	540
tangnttaaa	ccttncatng	ngnncaactt	taccangtn	gnttantatt	tngncccccg	600
ttaanacctt	tctnncngnt	cctccatttt	tg			632

<210> 823
 <211> 649
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(649)
 <223> n = A,T,C or G

<400> 823

actgctgcaa	cccattgcagc	gtcaacttctg	tctcatcatc	cacgaagatc	tccattggat	60
cttgcattgaa	cttgccggcag	actggacgga	tctcttttct	caaggtagca	ctgaacatca	120
tgacctgctt	ctcgtggggg	gtcatgcgaa	aaatttcctg	gacatcccg	cgcatgtcga	180
gctgttcaag	catcttatca	cattcatcca	aaataaagt	tttaattgtg	ttgaggttga	240
ggctcttatt	tcgagccagg	gctaggatac	ggcctggagt	ccccacgacg	atatgcgggc	300
agttcttctt	cagcacctct	tcctcttct	tgatagacag	accaccaaaa	aaaacagcaa	360
ccttgacatt	gggcatgtat	ttagagaagc	gctcatattc	cttgctgac	tgaaaagcca	420
actcccagat	ggtgacacca	tcaccagcac	agacacctgc	ccagtaacct	ggcttccaac	480
tggttgcant	gnngggccaa	gaacaaacac	tggtggcttt	tccatgccc	natttgggct	540
tggcnccagg	aaattcantt	cccaaatgg	gcttgaagg	atgccntnt	gcttggactt	600
ttgacgggat	gttnaaggcc	ccagnttnan	aatggncctg	gagcaattn		649

<210> 824
 <211> 603
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(603)
 <223> n = A,T,C or G

<400> 824

accccttata	aaccagcaat	gtcatctgtg	aggaagcaaa	ttctcaagt	tctgtcattt	60
acttggttct	ttttctttgt	ggtcttcacc	cttataccct	ggaaaagtct	gtaattacct	120
tagccaggaa	gatagatggt	catggcaagc	gcacagcacc	agacttactg	gctcaccaag	180
atgatggaaa	aaggcagatg	attttttaaa	aagccgtaat	gactccttta	gaccagccat	240
ttagcgtggt	aatttttga	ggcctagctc	cattgcagac	ttccaaagg	tcagctctga	300
gactgccctc	caggtgggca	gttgattatt	tccaccagtg	ttttccagag	ccttaaaactg	360
cctaagtgac	aactacctca	gttggcgagga	aaagagacat	atagtagaaa	gtgaaaaatg	420
agcagtattt	gggcagatgc	tatgggggtac	agttgaangg	taaaanggac	tttccttggg	480
aacccttatn	ccctgngaatt	atgacctngg	ccggacacnt	taaggcnatt	cacnntgngg	540
gccgtctaan	ggnnccactt	ggncancttg	ngnaaaaggc	aaactgtnt	gngnaatgtn	600
ccc						603

<210> 825
 <211> 634
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(634)
 <223> n = A,T,C or G

<400> 825

tgaaaaataa	actattntat	ttcagtgttt	gctccttgcg	gttcagaagc	acatctactg	60
------------	------------	------------	------------	------------	------------	----

cctgggttga	acccaaggct	tttataaaac	cgtagagaaa	tatgagctct	atgtatagag	120
aaaatataca	tggttgattaa	ttgtgtgact	ctttcctgtg	caaagcagaa	agttctaaat	180
gcaacagcat	gattctctcc	aagtccttcc	ctgggatttg	gggggcccctg	gaggctgtga	240
tctcacctcc	aatagagaat	cccccaattct	tccagcccaa	gggaggccca	gncatgtaga	300
aagagcagga	gataaaagtca	aagctgacaa	ctcatgggtt	cccccaagctt	ctccggggca	360
ggggctatgt	ttgggggccc	taccctgcaa	agaaggggta	gctgggggtgc	cnaocttggt	420
gggtaagtgc	cacactggca	ctaaagctgt	tgggaagtct	agcattgcan	ccggccagggt	480
ttatgggtna	accagggtgt	ccaanggggt	ttttcccta	aaactngggg	ctnaaaggng	540
gggaccctng	gcncgaaccc	ccttanggcc	aaatcccggc	aattgggggc	cntttttaan	600
gggnccaac	ttgggaccaa	acttggngna	atnn			634

<210> 826

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(507)

<223> n = A,T,C or G

<400> 826

ggtacctgaa	gaacaaatcc	cttcagggtt	aagctcgaca	ggacactttc	cccagtccca	60
ggtttccatt	tccctcattc	ccaaaagggg	cccctccctc	tccatgcgca	cacagaactt	120
ttcgctcacc	caaaagtccc	ttctgtctga	tcttttccca	tcatctttct	tccctctact	180
tactactccc	tctagaacag	tggattttta	atatactaca	cctcaggggac	caaaagaaaa	240
aagttaagca	agcagggttc	caagtgtctc	tccccaactt	caacaagaat	gtgcctttta	300
cttcctggga	ttccaaagta	agggatactg	tataaaaagga	tcaccattgc	tgaagttaa	360
aaccactgct	ctaaaagagt	tttctgcctt	aatgtgtctc	ttttccaaaa	tttcccttcc	420
cagcccatga	ttccacttct	tcacgtatcc	ttctaantcc	tctttttctg	gctatgctac	480
ttttcnangg	ctcaaaactt	aaattcn				507

<210> 827

<211> 617

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(617)

<223> n = A,T,C or G

<400> 827

cgccagcgct	gcaggagctg	acatggaccc	aaatcctcgg	gccgccctgg	agcgccaaca	60
gctccgcctt	cgggagcggc	aaaaattctt	cgaggacatt	ttacagccag	agacagagtt	120
tgtctttcct	ctgtcccatc	cgcactctga	gtcgcagaga	ccccccatag	gtagtatctc	180
atccatggaa	gtgaatgtgg	acacactgga	gcaagtagaa	cttattgacc	ttggggaccc	240
ggatgcagca	gatgtgttct	tgccttgcca	agatcctcca	ccaaccccc	agtcgtctgg	300
gatggacaac	catttgagg	agctgagcct	gccggtgcct	acatcagaca	ggaccacatc	360
taggacctct	tctnctnctc	ctnccgactcc	tncaccaacc	tgcataagcc	aaatccaagt	420
gatgatggag	cagatacgcc	cttggcacag	tcngatnaga	ggaggaaaag	gggtnttgga	480
ngggcaaaan	cttgannctg	cagntagcaa	tgggccttgc	tanaantgnc	caccttggtg	540
ttttccaatn	nnacncaggc	caccnaactt	ttgganaaac	caanttttnt	tgcgngggccc	600

617

<400> 828

```
<210> 829
<211> 619
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> misc_feature
<222> (1)...(619)
<223> n = A,T,C or G
```

<400> 829

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<210> 830
<211> 618
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> misc_feature
<222> (1)...(618)
```

<223> n = A,T,C or G

<400> 830

ggtacaccct	agccaacggg	acaaatccta	gagggataa	aatcatctct	gctcagataa	60
tcatgactta	gcaagaataa	gggcaaaaaa	tcctgttggc	ttaacgtcac	tggtccacct	120
ggtgtaatat	ctctcatgac	agtgcaccca	aggggaagtg	actaagtcac	atgtaaatta	180
ggagtgtttt	aaagaatgcc	atagatgttg	attcttaact	gctacagata	acctgtaatt	240
gagcagattt	aaaattcagg	catacttttc	catttatcca	agtgccttca	ttttccaga	300
tggcttcaga	agtaggctcg	tgggcagggc	gcagacctga	tctttatagg	gttgacatag	360
aaagcagtaa	gttgtggggg	gaaagggcag	gttgtcttca	aactctgtga	ggtagaatcc	420
ttnnctatac	ctccatgaac	attgactcgt	gtgttcagag	cctttggcct	ctntggngga	480
gtctngctnt	ttgggctcct	gggcatcctt	ttgaatagtc	actctgtaaa	actngccann	540
gctttgaaac	tgggtncctt	acccanggtg	naagggncct	tgttggcctt	tanaagggtn	600
ggnecatnct	ccaaaacc					618

<210> 831

<211> 648

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(648)

<223> n = A,T,C or G

<400> 831

acatgaaaga	cacgtccaca	tcacagttgc	ccccaaactg	cctgtgctcc	tcgatgggtg	60
ctctccctcc	agaaaacgca	tgcttattga	ccttggtttt	gatctgcttg	gccgtgtcgg	120
tgaggaagat	ggaggagttg	gggtcgctgg	cactcatttt	ggtctgggcg	ccctgcaggg	180
ctgggaagaa	ggtggagtgc	aacagggctg	gtttaggata	gccgatcctg	ggggcgacgt	240
cccttgctcat	tctaaagtaa	ggatcctggg	caatggcaca	tgggataagg	cactggatat	300
ccgtcctgtc	tcggaagatc	tgtgggaatg	agttgctgaa	ggagggagca	gcctggatgg	360
caggaaaact	gatcttccca	atgcagtcgc	tgctcagtga	acncgaaaaa	tgcttttcac	420
tttggtttga	aggtaacatg	cctttttgaa	tcttcaccac	atTTTTtga	gaaaccttgg	480
nccttnatnc	cccatgtagn	nccaggttca	naanaatntt	gaaaagnctt	tggtggaagg	540
tcaaaancnc	caggccaant	aaaggncctt	tggnaatTTT	ttcccnggnt	ataactttnt	600
nggcctgggn	ccaaggtcaa	nggccctttc	cnaannaact	ttttnggn		648

<210> 832

<211> 689

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(689)

<223> n = A,T,C or G

<400> 832

gtccccacga	actggcctgg	ccaagcaccc	cacactggag	ccatctcttc	ctcatatttc	60
agcagtgcag	ccggggggca	gggaagggca	ggcagggctc	gttggggctc	ctttttatcc	120
ttattcctcc	cccagcctaa	ttgtctttgt	tctgtgatta	ttgggggaca	cccggctccc	180
ccagacaat	gccagcataa	atccatccat	ccaaaggcag	agaaccaaag	gggccatgga	240

aggttctctg	tgtctctct	acccttccag	tgccctaggg	ctggcgactg	cccctgcctt	300
ttagaccgcg	ctccctttta	tacctgctct	tgntctactg	agaaaagcct	ctcagcaata	360
atgntttcta	gtcacttctt	ccgncttcgg	gacgggcgtg	cctggacact	tgtaccttng	420
gcccgcgaac	cacgcttaag	gggcgaaatt	ccaagcacnc	ttggccggcc	ggttaccttn	480
gtngggatnc	ccaaccttng	gnnncccaaa	ccttgggcgg	taaacctatg	ggnccttaac	540
ctngngttcc	ctgggggngn	aaaantngta	atttcggggt	ttaccctaatt	ttccncccca	600
aacnttntcc	caaancccg	gaaaaccctt	aaaaggnggg	aaaaancccc	ttgggggggg	660
gccctnaann	nggagggtgg	ngcnttanc				689

<210> 833

<211> 726

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(726)

<223> n = A,T,C or G

<400> 833

ggtactaatg	tgaattgttc	ctcagaaaacg	cttcttttcc	atcctagtga	gaagctggcc	60
ctgcagggtg	tggcagcaat	ggtgttgtaa	gatttcctcc	cgtagttttt	tctcctcatg	120
gatttgaatg	aaatgccaat	aacacgtcca	ctttcaacgt	gtagtttacg	cggagcactt	180
tcgaggcctg	gccgggttgg	gcctacttct	cacctgggcc	tatcttctga	actcgctagg	240
ttcttatcaa	catttggggg	ataactttgt	atattttttt	cattnggctt	ttctttacca	300
gtttctgatt	tttattctca	atatattttt	gctaaaacct	atttcacaaa	tnaccaccng	360
actgaaaagt	tgtgnttact	gatgcggccc	ttgagcttcc	atgggcgaaa	ggagtgactt	420
ttgcagcngc	cgtnaagaac	ccgnaaatct	ggttttnanag	cnccanggaa	agtngaccac	480
cnttangggg	agcccccncc	tangggggcg	ctttgtaang	cccncnnggg	ggaaccccc	540
annnaccggt	gggggtcctt	aaaagnaana	nanaccgggg	gtctttaagc	ttntttcctt	600
ggggcacncc	cccaaaannn	gggnntttcc	caatttntta	anacnctntc	ttnggggggg	660
tcctngngng	aaatggngga	aaaaaangcc	cnnntnnttg	ttnggggngg	gnaccncaan	720
gtggng						726

<210> 834

<211> 628

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(628)

<223> n = A,T,C or G

<400> 834

ggtacgagag	tgtagccaaa	gtgagaggct	gagagcaaag	gagacatttt	tttcagtttt	60
gagtcgagta	tccagacaga	ggcaaatacat	tttgtttaac	tttttattaa	agtgtacta	120
tagaaacaca	tcaatgattt	ttcacaagtg	gagcactgtg	catataatcg	gcaccccgaga	180
agccccccgt	cagattccct	tccagttaac	tacctctcca	aggggaaacca	ctatcctgag	240
ttctaagcgc	atagattagt	ttctgtctgg	tttggggaga	tatatataatg	gaattatgca	300
ttcttcgtat	ctggtttctt	ttcaccaata	ttatgtttgt	gagatttttg	gtgcatgtat	360
ttgtacagnt	ttgctgattt	taggtgttgc	gcctcattgg	gaacagtttg	ctataggttg	420
aagagaaaaat	ttgctcttcc	ggtttantgg	caccanggag	canaatgccc	ncagtgtntg	480

```

gnetcngata atgggtcgaa attgggangt gggetggacn tttttnactt gntctttctg 540
atctngantc ggtnnccat tcnatatttg gntntcttcg gaattnnttg ntngaacttg 600
cctgggccng gctgttctan agggnnag 628

```

```

<210> 835
<211> 602
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(602)
<223> n = A,T,C or G

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<400> 835
ggtactgaaa tcacaagagc tataactgcc agagaaaaat taaatggggg cttcaagtag 60
tgactgagcc agcaaactaa gtggccaaga gggagacaag agcagctcct aaagaagggt 120
gaagtcaagc aatctccgga acacagagga tctgaagcat ctgggcagag ccacaggcag 180
gcanggcaag gacacacagc acaccagagc agcaccgtcc ttcactgtgt gagagcaact 240
ctcagggtgc agaaccaatt gccatctcca ctgcctacag ctcaggtctc caactaccag 300
atagggagta aaaaacagtt tgatttttatt cacctcaagt ctaaacacgg ngggaaaaaa 360
aactgggtcta nagatggaaa ctatatattca tggggggttta ttaaacagag aaagaggaga 420
attttcacat ttcacagggc ttttcntgaa ataaagactt gatctgaaaa ggcaccctta 480
tggcangctt taacttccta agntngggna gnncccaaat tttccannaa tcttggggacc 540
ncttgcccag tngatttttt tttaaataact nagctnaatt gntnggntaa ttnnataana 600
ng 602

```

```

<210> 836
<211> 355
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(355)
<223> n = A,T,C or G

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```

<400> 836
acacaatgct tctgccagtc ctattcaggg ccaaggacat gtgcttataa ccatctgcca 60
aattttccaa actgtcacag taacaaccat caaatttttag cagatctact ccccagtcag 120
caaagggtctg ggcatacatg tcgtagtatc caaaactccc aggggaagcct gcgcagggtt 180
tattttccaa atctgcataa atccctagct tcagtccttt gctgtgaaca taattagcta 240
gctggcgaat cccatgagga aagcgtgag ggtctgcctg aagtctgcct tctgaatctc 300
tttgggggagc catccaacag tcatcaatgc agaggtacct cggncgngac cacgc 355

```

```

<210> 837
<211> 611
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(611)

```

<223> n = A,T,C or G

<400> 837

ggttttttttt	ttcgtgattg	tattcccata	aagcttttatt	tgtggactct	aaaatttgaa	60
ttttatgtga	ttttcacata	tcacaaacat	tcttcttctt	ttaatttttc	taaccattaa	120
aattataaaa	aactttctta	tttttgcagg	ccatacaaaa	ttaggcagtg	ggccaaatct	180
ggccgctagt	ttagaaggct	cacggtagtc	tcgctcgcag	gcatggcagt	tgcaagctgc	240
tggggcaccc	tgggtctcct	ccacaaggcc	tttcatcctc	cagaagctctg	aattggcctt	300
gttcatggca	ctttcagggc	agcattccaa	gaggtggaag	ggagagctctg	caaagacttc	360
tgaggctggc	tccagacctc	actcagtatc	cccactgctc	catttcagtc	agagtnaagt	420
cactagtntc	gcccagactc	aagggatgaa	gggaactgnc	tntanctcat	gatgaagata	480
acntgtgaaa	tactgggggc	tgagtttttc	anttanccnc	agggagtaat	tttcatggnt	540
taaanggcac	tcccccttat	ttttgaagcc	ntaanttcng	gcntttanng	ggaantaatt	600
aaccnccctt	a					611

<210> 838

<211> 650

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(650)

<223> n = A,T,C or G

<400> 838

ggtacttcca	cctcgggcac	atthtgggaa	gttgcatctc	tttgtcttca	aactgtgaag	60
catttacaga	aacgcaccca	gcaagaatat	tgtccctttg	agcagaaatt	tatctttcaa	120
agagggtatat	ttgaaaaaaa	aaaaagtata	tgtgaggatt	tttattgatt	ggggatcttg	180
gagtnthtca	ttgtcgtat	tgatttttac	ttcaatgggc	tcttccaaca	aggaagaagc	240
ttgctggtag	cacttgctac	cctgagttca	tccaggccca	actgtgagca	aggagcacia	300
gccacaagtc	ttccagagga	tgcttgatcc	cagtgggtct	gcttcaaggc	tttactgca	360
anacactaaa	gatccaagaa	ggccttcatg	gcccncncca	ngcccggatc	gggtanctgg	420
ccgggcnngn	cngtnnnaaa	gggcnaaatt	tcngcacact	tggccgnccg	ttactaagtn	480
ggantccnaa	gcttgngtan	ccaagctttg	gngnaattct	ngggcatann	nctgggtnc	540
ttgngngnaa	aatgntantc	ccgtnnnaaa	ttcccttcac	cnnanctgan	cctgaaagct	600
ttaantgggn	aaacnttggy	ggtccctaatt	tnggggggacn	taacntctnt		650

<210> 839

<211> 626

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(626)

<223> n = A,T,C or G

<400> 839

actaaacgag	caggtgaagg	aggctgaagg	atcgtctgct	gaatacaaga	aagaaattga	60
ggaactaaag	gaactgctac	ccgaaattag	agagaagata	gaagatgcaa	aggagtctca	120
gcgtagtggg	aatgtagctg	aactggctct	gaaagctact	ctggtggaga	gttctacttc	180
aggtttcaact	cctggtggag	gaggctcttc	agtctccatg	attgccagta	gaaagccaac	240

agacggtgct	tcctcatcaa	attgtgtgac	tgatatttcc	caccttggtca	gaaagaagcc	300
ttcacaatta	tatctttaga	ggaaaccaga	ggaaganagt	ccncggaaag	atgatgcaaa	360
gaaagccaaa	caagagcncg	gaagtgaacg	gaaggcnttt	ggggatgcct	gtccccaagt	420
ggaaaatgaa	gtttcngaaa	acantggagg	aggangctga	naatcaggct	gaaagccngg	480
ccnccaatgg	aaggggacat	tgtanggctt	ggancttcng	gtngaaagcc	nttgcttttt	540
aaaaangggg	cccagnctt	tcttccangg	gaaaagggnt	tttggaaatta	aangnttttt	600
tnacnttttg	ganggatcct	tttggt				626

<210> 840

<211> 323

<212> DNA

<213> Homo sapiens

<400> 840

ggtacagcag	ccttctttgc	tggaggccct	tgaacttctt	cctcctcctc	gctgctgtcc	60
tcactgtcac	tggatgaggc	cttcttctta	gctttcttag	ccactgggtcc	atttgctgtt	120
aactttcgct	ctgggacctt	ggcagacctg	ttgagccaga	agctatagat	gtctaagagg	180
gaagaggcat	tggcatcctg	ctgtgtagct	cctgtcgtt	tggcgaaactt	attggccacc	240
tctgagagtt	ggttatcgcg	caggaagccg	agcacgaggg	gatacagggtc	gctgggaacc	300
acgcggcgaa	tgccggcgctc	cgc				323

<210> 841

<211> 614

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(614)

<223> n = A,T,C or G

<400> 841

acattgaaaa	tgagggttaag	atgatcatgc	aggataaaact	ggagaaggag	cggaatgatg	60
ctaagaacgc	agtggaggaa	tatgtgtatg	aaatgagaga	caagcttagt	ggtgaatatg	120
agaagtttgt	gagtgaagat	gatcgtaaca	gttttacttt	gaaactggaa	gatactgaaa	180
attggttgta	tgaggatgga	gaagaccagc	caaagcaagt	ttatgttgat	aagtgggctg	240
aattaaaaaa	tctaggtcaa	cctattaaga	taccgtttcc	aggaatctga	agaacgacca	300
aaattatttg	aagaactagg	ggaaacagat	ccaacagtat	atganaataa	tcagctcttt	360
caanaaacia	ggaggaccng	tattgatcat	ttggatgctg	ctgacatgac	caaggtagna	420
naaagcncaa	atggaagcaa	tggaattgga	tgaataacca	agcttaattc	tgctgancaa	480
gcnatagttt	gncattggnt	nnagttgtta	ngtccnaaga	gnattgaanc	ttaaanttna	540
gggctgccaa	ngnctttggc	cggnacncnc	ntnagggcna	tttcagccnc	ttggcgcccg	600
ttctatggnn	ncnn					614

<210> 842

<211> 609

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(609)

<223> n = A,T,C or G

<400> 842
 ggtacacttg ctaaatttga atgggcangc agcaaactct gggaagactt ctaatgcttt 60
 acgatacaag cgaactgcct cttcaatgtt tccctgttct cgtttgatat tggctagggt 120
 attcagagag tctgcatggg tgggacacag acggagagct gtattataac aatcttctgc 180
 ttcagcaacc tgtcaaaaat gcgtgcctct ttcaagacat ttcctaaatt gatataagca 240
 tccagaaagt ttgggtcaag ggtgacagcc ttttcaaagt gatgaattgc aagccaaatt 300
 tccccttggt cattgaaaac acagccaaga ttactccaag ctactgcaaa gttcgggttg 360
 gtctcaattg ctttcaaata acatgccttg gcttcttcca agcgacccaa ggcttttaca 420
 ggtncacagg tcaactgcga cacagtacct gcccgggcgc cgttcaaang gcgaaattca 480
 gcacacttgc ggncgtanta gtggantncn agcntcggnc caacttgggn ntataatggg 540
 canaactggt ccctggggga aantggtncn cnttaccatt tcnccacttn cgaccggaag 600
 cttaaangg 609

<210> 843
 <211> 610
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(610)
 <223> n = A,T,C or G

<400> 843
 ggtttttttt cgcagggtatt tctctgtctt taatagacaa ttttagaaag acatgttaac 60
 ggggggaaaat cacacaatac taaggatctg agggccataa acatcacata tgttgagttt 120
 gcttttagtt ttgtttccaa cagttcttaa ccaatgttcc tggctgtaat ctagggtgcta 180
 gacgcactgc aaatcctcga aagtgtttta gatgaaagag caatacactt aagatcttca 240
 aaagtttaca ttaacagaat aagcattagc tccttttaac acacacacac aactaaatta 300
 acaaatgaaa tgtgtctact tttatatatg ccataaaagc agacacttaa cattgaaatt 360
 tactatttta gatttttact cttttaagag ctatcaatat agacactnaa gataattcac 420
 atttnaaaaa ttatctacct ggaagaatag aacttcttta agaaggaaaa agnaaaagct 480
 ggtgaaacca aggattgcct ggggtnggaa ggaccgnttt naacctgggc cttaaattgnc 540
 ntgagnacaa ttgattggtc nnncttgggc tntnttggtt acaccggcct tcanggtttt 600
 cttgaccnc 610

<210> 844
 <211> 675
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(675)
 <223> n = A,T,C or G

<400> 844
 ggtacacctg aattccaggc caatgaagtt cggaaagtga agaaatatga acagggattc 60
 atcacagacc ctgtggctct cagccccaag gatcgctgct gggatgtttt tgaggccaag 120
 gccggcatg gtttctgcgg tatcccaatc acagacacag gccggatggg gagccgcttg 180
 gtgggcatca tctcctccag ggacattgat tttctcaaag aggaggaaca tgactgtttc 240
 ttggaagaga taatgacaaa gagggaagac ttggtggtag cccctgcagg catcacactg 300

aaggaggcaa	atgaaattct	gcagcgagc	aagaagggaa	agttgccc	tgtaaatgaa	360
gatgatgagc	ttgtggccat	cattgcccgg	acagacctga	agaagaatcg	ggactaccca	420
ctagccttcc	aaagatgccc	aagaaaccag	cttgcttggtg	ttgggcaagc	cattggggcac	480
ttcattgaag	gattgaccaa	ggtttttang	ccttggaacct	ttggtttggc	cccaaggcctt	540
tggtgttggg	attgtaaatg	gggttttttg	gacttttttt	nccangggg	aaaatttccc	600
tttttttcnc	nanttccaat	tttgnatcc	aaagtnccct	tggccccggg	gccggggccg	660
tttcaaaaan	gggccc					675

<210> 845

<211> 620

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(620)

<223> n = A,T,C or G

<400> 845

acagcctaag	acacaaggat	ctaggcgaag	tagccgcaa	ataaaaaaac	gaagggtcat	60
atcagattct	gagagtga	ttggtggctc	tgatgtggaa	tttaagccag	acactaagga	120
ggaagggaagc	agtgatgaaa	taagcagtgg	agtgggggat	agtgagagt	aaggcctgaa	180
cagccctgcc	aaagttgctc	gaaagcggaa	gagaatgggtg	actggaaatg	gctctcttaa	240
aaggaaaaagc	tctaggaagg	aaacgcccctc	agccaccaa	caagcaacta	gcatttcac	300
agaaaccaag	aatactttga	gagctttctc	tgccccctcaa	aattctgaat	cccaagccca	360
cgtagtgga	ggtgggtgatg	acagttagtcg	cctactgntt	ggtatcatga	aactttagaa	420
tggtcttaagg	gaggaaaaga	gaanaaatga	ncncaggang	aaggcctgat	caccccgatt	480
ttgatgcctt	tnccctntnt	gggnccctgga	ggatttcntc	aaatctttgg	anccttggcc	540
nnnaccnccn	ttangggcg	aatccagccc	ttgngngncc	gttcttaggg	gatcncagct	600
tggnnccaac	tttgggggtan					620

<210> 846

<211> 617

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(617)

<223> n = A,T,C or G

<400> 846

cagggtacata	aagcagattc	aagggttaaa	ataaaaaacag	aatttttgag	tgtggtcaaa	60
taagggtgcac	agattccaga	accctcagag	ggcctgctgg	ccctctccag	acattctgtg	120
tccgtgggtgc	aggagctggg	cccgtcccta	acagctccgc	actggcttag	tgagtggtg	180
ctcacagttt	caggaactac	taggtgaagt	gtctggctca	agtctgcaa	gtgtcttcac	240
tccatcgta	gaagtggagc	actatcccta	ggttcgattc	ccatgaaata	ttttatgatt	300
tccatcctct	ttgcccgtc	ttccaaataa	ggccctgtga	tgccaacnaa	gggggcatgg	360
ttgaggggtct	aaggctctca	ttagggccta	attctgtgtg	gatatnaaca	catgacagac	420
acttgctgca	ncattnanga	cattttaaggc	agaggggtca	tttaangnta	cttttncaaa	480
ttaatattn	gnngatnggg	cagttcttac	ctgnnactgg	tnnttattgg	ggnaattttt	540
taccangggg	ctgtctattt	taaatngctt	nggnattacn	ngtttngnac	cctcnaannn	600
ctngggaaac	ttntnnc					617

<210> 847
 <211> 638
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(638)
 <223> n = A,T,C or G

<400> 847

ggtacaagct	tttttttttt	tttttttttt	tttttttagc	ctttccttat	gagcatgcct	60
gtgttggtt	gacagtgagg	gtaataatga	cttggtggtt	gattgtagat	attgggctgt	120
taattgtcag	ttcagtgttt	taatctgacg	caggcttatg	cggaggagaa	tgttttcatg	180
ttacttatac	taacattagt	tcttctatag	ggtgatagat	tggtccaatt	gggtgtgagg	240
agttcagtta	tatgtttggg	attttttagg	tagtgggtgt	tgagcttgaa	cgctttctta	300
attgggtggt	gcttttaggc	ctactatggg	tgttaaattt	tttactctct	ctacaagggt	360
ttttcctaan	tggccaaaag	agctggctct	tctttgggac	taaccagtta	aattttacca	420
ngggggaatt	taanaggggt	tcttgggggc	caaatttttaa	aggtcngaac	ttaagantct	480
tatcttgga	caanccagnt	nttcaccagg	cnttggnaa	ggtttngtcn	gcctttaccn	540
taaaaaatctt	tccnctant	tttctaccnn	aaccgggggg	cncttttaaa	cgnnntttan	600
ggganccccc	ccnggtttng	gggggttnaa	ctttgcnn			638

<210> 848
 <211> 347
 <212> DNA
 <213> Homo sapiens

<400> 848

ggtttttttt	tttttcaaca	gacaaaaaaaa	gtttattgaa	tacaaaactc	aaaggcatca	60
acagtccttg	gccaagaga	tccatggcag	gaagtcaaga	gttctgcttc	agggtcggtc	120
tgggcagccc	tggaagaagt	cattgcacat	gacagtgatg	agtgccagga	aaacagcata	180
ctcctggaag	tccacctgct	ggtcactgtt	ctcatccagg	ctgcccacat	gcttcttcag	240
cccctcctca	tccactttct	ccccacaaa	gctgggcagc	tccttggtgca	gaagttcctt	300
catttccccc	ttactcagct	tgaacttgct	gccctcttgg	caggagt		347

<210> 849
 <211> 624
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 849

actgctggaa	atacaatctt	cagcaggtgc	tgatgcaggc	tggaatttgg	ctggagcgga	60
ccctccatt	ggtttagaag	ttgcttttagt	gggtggagca	ggcttggctg	gcatgctaac	120
tttggttttc	tctagcatgg	ccaataacctg	atcttttagaa	gttggcttta	gtttcccagt	180
agccttggcc	attttttcat	atcctaaatg	catcatgaag	aatggcaagg	catcttgggc	240
cttctttcgc	acatctccat	ttcgatcttc	taggcaggag	tagagatgag	gaacacaaa	300

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gataaggtct	gtaggggttg	aacgaagagt	aggtagtttc	tcaaccagcc	agcccagaag	360
ctcttgctc	aagaaaggat	tttcttttga	gctcttcaga	aagaacttct	ccttcaacca	420
ttccttnatg	cccantctgg	ttntggccaa	gcatttcaca	ggtcgctang	ggcaagcact	480
tcgaacattg	gtcttgcttg	ctccaaggac	ttgggaatna	anggggangc	ctnaaathtt	540
ttancgggtg	gcttaaaatt	tggggccnan	ggttattgcc	aaattgtttc	cagggatttn	600
aacggtttgg	tggncctcgg	cccg				624

<210> 850

<211> 636

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(636)

<223> n = A,T,C or G

<400> 850

acaagttatc	aaacttctgt	ttggtaacag	aatcattgac	gttcatggcc	ggaacacaga	60
gcttcccagc	tttggagagc	tgatacagcc	tgtgaacacc	agtcacgctc	tcttccacaa	120
tgcttcggat	cttcttaaac	acgtttggat	acttcttata	aaccacgtgg	gttaagtctc	180
ccccatcatc	caggatcatg	ttggcctgcc	acccatccat	gttcacacag	cggtaataac	240
accaccagaa	gtcatcttct	gactcgccct	tccaagcgaa	cactgcaact	ccagcctcag	300
ccagtgtgtc	agctacttca	ttctgagttg	agtagatgtt	acaagcagac	cagcggcact	360
gagccccag	agcacagagt	gtctcaatca	acacccgctg	tctgggctgt	gatgtgtgta	420
tcttnggccg	ngaacangct	taagggcgaa	ttncacacaa	cttggcggcc	ggtacttagt	480
gggaatccan	cttngntacc	caagcttggg	cgtaantcat	ngggcatang	cntggttcct	540
nggggaaant	ggtatncggt	tanaanttcc	accaaanttc	naancccgga	agnnttaaan	600
gntaaaanct	tngggggcct	aantgagng	anntac			636

